Publications of the AIAA

1979 Subject and Author Indexes

AIAA Journal
Journal of Aircraft
Journal of Energy
Journal of Guidance and Control
Journal of Hydronautics
Journal of Spacecraft and Rockets
Progress in Astronautics and Aeronautics

V.I.C.C.
AUG 15 1980
LIBRARY

A Publication of the American Institute of Aeronautics and Astronautics

AIAA

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS
1290 Avenue of the Americas, New York, N.Y. 10104
(212)581-4300

1979 TECHNICAL EDITORS

AIAA JOURNAL

EDITOR-IN-CHIEF: George W. Sutton
ASSOCIATE EDITORS: David Bushnell, Tuncer Cebeci, Marvin E. Goldstein, John R. Howell, William S. Lewellen, Harvard Lomax, Samuel C. McIntosh Jr., Robert E. Melnik, Vipperla B. Venkayya, George F. Widhopf

JOURNAL OF AIRCRAFT

EDITOR-IN-CHIEF: Thomas M. Weeks
ASSOCIATE EDITORS: Donald M. Dix, Lars E. Ericsson, Ronald A. Hess, Barnes W. McCormick Jr., Jean A. McGrew, Amedeo R. Odoni, Allen I. Ormsbee, John L. Porter, Craig D. Simcox

JOURNAL OF ENERGY

EDITOR-IN-CHIEF: William H. Heiser
ASSOCIATE EDITORS: William S. Blazowski, Leroy S. Fletcher Gordon C. Oates, E.S. Rittner, Kenell J. Touryan

JOURNAL OF GUIDANCE AND CONTROL

EDITOR-IN-CHIEF: Donald C. Fraser
ASSOCIATE EDITORS: Ronald O. Anderson, Richard H. Battin, D. Lewis Mingori, Stephen S. Osder, Byron D. Tapley

JOURNAL OF HYDRONAUTICS

EDITOR-IN-CHIEF: John P. Breslin
ASSOCIATE EDITORS: Denny R. S. Ko, Donald M. Layton, Michael B. Wilson

JOURNAL OF SPACECRAFT AND ROCKETS

EDITOR-IN-CHIEF: Paul F. Holloway
ASSOCIATE EDITORS: Charles E. Cheeseman, George A. Hazelrigg, Walter B. Olstad, R. H. Woodward Waesche, Gerald D. Walberg

PROGRESS IN ASTRONAUTICS AND AERONAUTICS

EDITOR-IN-CHIEF: Martin Summerfield

STAFF OFFICERS

Executive Secretary: JAMES J. HARFORD

Secretary and Controller: EDWARD H. SEYMOUR

MEMBERS OF THE 1979 PUBLICATIONS COMMITTEE

Vice President-Publications and Chairman: ALLEN E. FUHS

H. NORMAN ABRAMSON
JOHN D. ANDERSON JR.
CHARLES K. BAUER
FREDERICK S. BILLIG
EDGAR M. CORTRIGHT
FRED E. C. CULICK
EARL H. DOWELL
GORDON L. DUGGER
ALEXANDER H. FLAX
R. KENNETH LOBB
RUDOLF X. MEYER
ANTONI K. OPPENHEIM
EDWARD W. PRICE
JOHN S. PRZEMIENIECKI
RALPH R. RAGAN
HERBERT E. RAUCH
ROY E. REICHENBACH
JOSEPH A. SCHETZ
ALLIE M. SMITH
MARTIN SUMMERFIELD
ALEXANDER J. TACHMINDJI

1979 JOURNAL AND PROGRESS SERIES EDITORIAL STAFF

ADMINISTRATOR, SCIENTIFIC PUBLICATIONS
RUTH F. BRYANS

ADMINISTRATIVE ASSISTANT
JEANNE GODETTE

MANAGING EDITOR, AIAA J
ELAINE CAMHI

MANAGING EDITOR, JE, JGC, JSR
LAWRENCE LEVY

MANAGING EDITOR, JA, JH
MARIE D'AMICO

MANAGING EDITOR, PS
NORMA J. BRENNAN

Published by the American Institute of Aeronautics and Astronautics Inc. at 1290 Avenue of the Americas, New York, N.Y. 10104. Cable address: INSAERAST NEW YORK. West Coast Office: 9841 Airport Blvd., Los Angeles, Calif. 90045. Washington Office: 1625 I Street N.W., Suite 606, Washington, D.C. 20006. Librarians will receive one copy of the index for each subscription which they have. Any AIAA member who subscribes to one or more Journals will receive one index. Additional copies available from AIAA, 1290 Avenue of the Americas, New York, N.Y. 10104, $10.00 per copy **(remittance must accompany order).**

Subject and Author Indexes of Technical Papers Published in the AIAA Journals and in Progress in Astronautics and Aeronautics Books in 1979

AIAA Journal (Vol. 17, 1979)

Issue	Pages
January	1-128
February	129-224
March	225-320
April	321-448
May	449-544
June	545-672
July	673-800
August	801-928
September	929-1024
October	1025-1152
November	1153-1280
December	1281-1408

Journal of Energy (Vol. 3, 1979)

Issue	Pages
January-February	1-64
March-April	65-128
May-June	129-192
July-August	193-256
September-October	257-320
November-December	321-384

Journal of Guidance and Control (Vol. 2, 1979)

Issue	Pages
January-February	1-96
March-April	97-160
May-June	161-256
July-August	257-352
September-October	353-448
November-December	449-544

Journal of Aircraft (Vol. 16, 1979)

Issue	Pages
January	1-64
February	65-128
March	129-224
April	225-288
May	289-352
June	353-416
July	417-512
August	513-576
September	577-640
October	641-736
November	737-800
December	801-896

Journal of Hydronautics (Vol. 13, 1979)

Issue	Pages
January	1-32
April	33-68
July	69-104
October	105-136

Journal of Spacecraft and Rockets (Vol. 16, 1979)

Issue	Pages
January-February	1-64
March-April	65-128
May-June	129-192
July-August	193-288
September-October	289-352
November-December	353-448

Progress in Astronautics and Aeronautics (Vols. 63-67, 1979)

SYN, SP, TN, EN, TC, and ERR indicate Synoptic, Survey Paper, Technical Note, Engineering Note, Technical Comment and Errata respectively. All other items are regular full-length articles. The initials of the publication in which the paper was published are in parentheses at the end of each entry. In the Subject Index, papers are listed alphabetically by title, regardless of publication or category.

Table of Contents

	Page
List of Subject Index Topic Titles	2
Subject Index	4
Author Index	30

LIST OF SUBJECT INDEX TOPIC TITLES

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Aerodynamics . . . 4
Cabin Environment, Crew Training, and Life Support . . . 5
Civil Missions and Transportation . . . 5
Configuration Design . . . 5
Deceleration Systems . . . 5
Economics . . . 5
Flight Operations . . . 5
Fuels and Fuel Systems . . . 5
General Aviation . . . 5
Ground Effect Machines . . . 5
Guidance and Control . . . 5
Handling Qualities, Stability and Control . . . 6
Helicopters . . . 6
Landing Dynamics . . . 6
Lighter-than-Airships . . . 6
Military Missions . . . 6
Navigation, Communication, and Traffic Control . . . 6
Noise . . . 6
Performance . . . 6
Powerplant Design . . . 7
Propeller and Rotor Systems . . . 7
Simulation . . . 7
Structural Design (including Loads) . . . 7
Structural Materials . . . 7
Subsystem Design . . . 7
Testing, Flight and Ground . . . 7
Vibration . . . 8

ENERGY

Alternate Fuels . . . 8
Combustion Efficiency . . . 8
Conservation . . . 8
Cryogenics . . . 8
Exploration and Recovery . . . 8
Hydrogen and Unique Fuels . . . 8
MHD . . . 8
Microwaves . . . 8
Nuclear Fission . . . 8
Photovoltaic Power . . . 8
Rotating Machinery . . . 9
Solar Thermal Power . . . 9
Thermoelectric . . . 9
Wind Power . . . 9

FLUID DYNAMICS

Aeroacoustics . . . 9
Boundary Layers and Convective Heat Transfer—Laminar . . . 9
Boundary Layers and Convective Heat Transfer—Turbulent . . . 10
Boundary-Layer Stability and Transition . . . 10
Computational Methods . . . 10
Hydrodynamics . . . 11
Jets, Wakes, and Viscid-Inviscid Flow Interactions . . . 12
Multiphase Flows . . . 13
Nonsteady Aerodynamics . . . 13
Nozzle and Channel Flow . . . 13
Plasma Dynamics and MHD . . . 14
Radiatively Coupled Flows and Heat Transfer . . . 14
Rarefied Flows . . . 14
Reactive Flows . . . 14
Shock Waves and Detonations . . . 14
Subsonic Flow . . . 14
Supersonic and Hypersonic Flow . . . 15
Transonic Flow . . . 15
Viscous Nonboundary-Layer Flows . . . 16
Wave Motion and Sloshing . . . 16

INTERDISCIPLINARY TOPICS

Aerospace Technology Utilization . . . 16
Analytical and Numerical Methods . . . 16
Atmospheric and Space Sciences . . . 17
Computer Communications, Information Processing and Software . . . 17
Computer Technology . . . 17
Human Factors . . . 17
Lasers . . . 17
Law, History, Policy, and Sociology . . . 17
Reliability, Maintainability, and Logistics Support . . . 17
Research Facilities and Instrumentation . . . 18
Safety . . . 18
Satellite Communication Systems (including Terrestrial Stations) . . . 18
Sensor Systems . . . 18
Space Processing . . . 19

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

LV/M Aerodynamic Heating and Ablation . . . 19
LV/M Aerodynamics . . . 19
LV/M Configurational Design . . . 19
LV/M Dynamics and Control . . . 19
LV/M Guidance . . . 19
LV/M Mission Studies and Economics . . . 19
LV/M Propulsion and Propellant Systems . . . 19
LV/M Simulation . . . 19
LV/M Structural Design (including Loads) . . . 19
LV/M Testing, Flight and Ground . . . 20
LV/M Trajectories and Tracking Systems . . . 20
LV/M Vibration . . . 20
Launch Vehicle Systems . . . 20
Missile Systems . . . 20
Sounding Rocket Systems . . . 20

MARINE TECHNOLOGY

Marine Hydrodynamics, Vessel and Control Surface . . . 20
Marine Instrumentation . . . 20
Marine Materials, Corrosion/Erosion . . . 20
Marine Mooring Systems and Cable Mechanics . . . 20
Marine Propulsion . . . 20
Marine Vessel Design (including Loads) . . . 20
Marine Vessel Systems, Submerged and Surface . . . 20
Marine Vessel Trajectories, Stability and Control . . . 20
Oceanography, Physical and Biological . . . 20
Sea Pollution and Containment Control . . . 20

PROPULSION

Airbreathing Propulsion . . . 20
Combustion and Combustor Designs . . . 21
Combustion Stability, Ignition, and Detonation . . . 21
Electric and Advanced Space Propulsion . . . 22
Engine Performance . . . 22
Environmental Effects . . . 22
Fuels and Propellants, Properties of . . . 22
Liquid Rocket Engines and Missile Systems . . . 22
Propulsion for Marine Application . . . 22
Solid and Hybrid Rocket Engines . . . 22

SPACECRAFT TECHNOLOGY

Data Sensing, Presentation, and Transmission . . . 23
Earth-Orbital Trajectories . . . 23
Entry Vehicle Dynamics and Control . . . 23
Entry Vehicle Testing, Flight and Ground . . . 23
Entry Vehicles and Landers . . . 23
Extra-Vehicular Activity . . . 23
Lunar and Interplanetary Trajectories . . . 23
Spacecraft Configurational and Structural Design (including Loads) . . . 23
Spacecraft Dynamics and Control . . . 23
Spacecraft Electric Power . . . 24
Spacecraft Missions and Economics . . . 24
Spacecraft Navigation, Guidance, and Flight-Path Control . . . 24
Spacecraft Propulsion Systems Integration . . . 24
Spacecraft Signatures and Tracking . . . 24
Spacecraft Simulation . . . 24
Spacecraft Systems . . . 24
Spacecraft Temperature Control . . . 24
Spacecraft Testing, Flight and Ground . . . 25
Space Station Systems, Manned . . . 25

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Hydroelasticity . . . 25
Materials, Properties of . . . 25
Structural Composite Materials . . . 25
Structural Design . . . 25
Structural Durability (including Fatigue and Fracture) . . . 26
Structural Dynamics . . . 26
Structural Stability . . . 26
Structural Statics . . . 27
Thermal Stresses . . . 27

THERMOPHYSICS AND THERMOCHEMISTRY

Ablation, Pyrolysis, Thermal Decomposition and Degradation (including Refractories) . . . 27
Experimental Methods of Diagnostics . . . 27
Heat Conduction . . . 27
Heat Pipes . . . 27
Radiation and Radiative Heat Transfer . . . 28
Thermal Control . . . 28
Thermal Modeling and Analysis . . . 28
Thermal Surface Properties . . . 28
Thermochemistry and Chemical Kinetics . . . 29
Thermophysical Properties of Matter . . . 29

SUBJECT INDEX

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Aerodynamics

Adaptive wind tunnels with imperfect control. W.R. Sears (JA)344
Aerodynamic effects induced by a vectored high aspect ratio nonaxisymmetric exhaust nozzle. Douglas L. Bowers (JA) 515
Aerodynamics of strake-wing interactions. James M. Luckring (JA) 756
Airborne detection of low-level wind shear. R.A. Greene (JA) 823
Aircraft operating environments around high-speed ships. James F. Marchman III (JH, SYN) 3
Analysis method for viscous flow over circulation-controlled airfoils. F.A. Dvorak and R.J. Kind (JA) 23
Application of laminar flow control to large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 170
Application of the vortex-lattice technique to arbitrary bodies. K.R. Asfar, D.T. Mook, and A.H. Nayfeh (JA) 421
Approximate analysis of strake wings at low speeds. S.K. Chakrabartty and B.C. Basu (AIAA J, TN) 432
Axial compressor blade optimization in the low Reynolds number regime. William B. Roberts (AIAA J) 1361
Computation of three-dimensional potential flow using surface vorticity distribution. Pradeep Raj and Robin B. Gray (JA) 162
Computational aerodynamics development and outlook. Dean R. Chapman (AIAA J, Dryden Lectureship in Research) 1293
Definition of yaw meter sensitivity for the "null reading"technique. Adrian Millward (JH, EN) 130
Effect of forward acceleration on aerodynamic characteristics of wings. Shigenori Ando and Akio Ichikawa (AIAA J, TN) 653
Effect of over-the-wing nacelles on wing-body aerodynamics. David E. Reubush (JA) 359
Effect of spanwise blowing on the aerodynamic characteristics of the F-5E. Gary E. Erickson (JA) 695
Effects of airframe-inlet integration on half-axisymmetric and two-dimensional supersonic inlet performance. Lewis E. Surber and Dennis Sedlock (JA) 612
Efficient algorithm for numerical airfoil optimization. Garret N. Vanderplaats (JA) 842
Electricity generation from jet-stream winds. C. A. J. Fletcher and B. W. Roberts (JE) 241
Experimental study of a jet issuing from a lifting wing. H.M. McMahon and D.L. Antani (JA) 275
Finite-element approach to compressor blade-to-blade cascade analysis. Wagdi G. Habashi, Ernest G. Dueck, and David P. Kenny (AIAA J) 693
Flight through thunderstorm outflows. Walter Frost, Bill Crosby, and Dennis W. Camp (JA) 749
Flying-hot-wire study of flow past an NACA 4412 airfoil at maximum lift. Donald Coles and Alan J. Wadcock (AIAA J) 321
Formation of a trailing vortex. Michael S. Francis and Donald A. Kennedy (JA) 148
Formulas for spanwise distribution of lift on aircraft wings. Wilson C. Obi (JA, EN) 733
Ground effects on USB configurations. C. Edward Lan (JA,EN) 62
Ground effects testing of two-, three-, and four-jet configurations. H.E. Sherrieb (JA) 393
Historical overview of stall/spin characteristics of general aviation aircraft. Seth B. Anderson (JA) 455
Hot-wire, laser-anemometer, and force measurements of interacting trailing vortices. J.D. Iversen, V.R. Corsiglia, S. Park, D.R. Backhus, and R.A. Brickman (JA) 448
Hysteresis zone or locus—aerodynamics of bulbous based bodies at low speeds. Eugene E. Covert (AIAA J, TN) 659
Improved higher-order panel method for linearized supersonic flow. F.E. Ehlers, M.A. Epton, F.T. Johnson, A.E. Magnus, and P.E. Rubbert (AIAA J, SYN) 225
Improved wave drag predictions using modified linear theory. Robert T. Stancil (JA) 41
Improved Woodward's panel method for calculating edge suction forces. C. Edward Lan and Sudhir C. Mehrotra (JA, EN) 362
Improving large-scale testing capability by modifying the 40- by 80-ft wind tunnel. Kenneth W. Mort, Paul T. Soderman, and William T. Eckert (JA) 571
In-flight captive store loads compared with wind-tunnel and mathematical simulations. A.R. Maddox, R.E. Dix, and G.R. Mattasits (JA) 289
Installed performance of vectoring/reversing nonaxisymmetric nozzles. P.E. Hiley, D.E. Kitzmiller, and C.M. Willard (JA) 532
Inviscid model of two-dimensional vortex shedding by a circular cylinder. Turgut Sarpkaya and Ray L. Schoaff (AIAA J) 1193
Lanchester-Betz limit. Karl H. Bergey (JE, TN) 382
Lifting-line theory of oblique wings in transonic flows. H.K. Cheng and S.Y. Meng (AIAA J, TN) 121
Lifting surface approach to the estimation of gust response of finite wings. Hiroshi Okubo, Makoto Kobayakawa, and Hiroshi Maeda (JA) 309
Local momentum theory and its application to the rotary wing. Akira Azuma and Keiji Kawachi (JA) 6
Measurements of flows with tangential injection and comparison with prediction methods. R.J. Kind, K. Gooden, and F.A. Dvorak (AIAA J) 730
Method for calculating wing loading during maneuvering flight along a three-dimensional curved path. J. Katz (JA) 739
Moving-ground simulation by tangential blowing. J.E. Hackett and R.A. Boles (JA) 803
Multiple equilibrium vortex positions in symmetric shedding from slender bodies. D. Weihs and M. Boasson (AIAA J, TN) 213
New approach to the 3-D transonic flow analysis using the STAR-100 computer. David D. Redhed, Allen W. Chen, and Steven G. Hotovy (AIAA J, TN) 98
New rotation-balance apparatus for measuring airplane spin aerodynamics in the wind tunnel. Gerald N. Malcolm (JA) 264
Nonlinear propagation of a wave packet in a two-dimensional lined duct. Morgan S. Tsai (AIAA J, SYN) 129
Numerical calculation of transonic potential flow about wing-body combinations. D.A. Caughey and Antony Jameson (AIAA J) 175
Numerical solution for perpendicular sonic hydrogen injection into a ducted supersonic airstream. J. Philip Drummond (AIAA J, TN) 531
Numerical solution of the supersonic and hypersonic viscous flow around thin delta wings. Guion S. Bluford Jr. (AIAA J) 942
Observations on maximum likelihood estimation of aerodynamics characteristics from flight data. Kenneth W. Iliff and Richard E. Maine (JGC) 228
Orbiter approach and landing tests — correlation of flight and predicted performance data. P.O. Romere, D.L. Eichblatt, J.M. Underwood, and D.B. Howes (JA) 233
Particle trajectories in turbine cascades. R.P. Dring, J.R. Caspar, and M. Suo (JE) 161
Potential flow analysis of multielement airfoils using conformal mapping. N.D. Halsey (AIAA J) 1281
Ram-air-spoiler roll stabilization device for forward-control cruciform missiles. A. B. Blair Jr., Wallace C. Sawyer, and Charlie M. Jackson Jr. (JGC) 40
Real flow limitations in supersonic airplane design. Robert M. Kulfan and Armand Sigalla (JA, SP) 645
Reduction of aerodynamic drag and fuel consumption for tractor-trailer vehicles. Vincent U. Muirhead and Edwin J. Saltzman (JE) 279
Reverse thrust performance of a variable-pitch fan engine at forward velocity. D.C. Reemsnyder and D.A. Sagerser (JA) 848
Side-force alleviation on slender, pointed forebodies at high angles of attack. Dhanvada M. Rao (JA) 763
Some propulsion and control concepts for a Navy type A V/STOL airplane. J.M. Zabinsky (JA) 769
Subsonic VSTOL aircraft configurations with tandem wings. Julian Wolkovitch (JA) 605
Supercritical airfoil technology in compressor cascades: comparison of theoretical and experimental results. H.E. Stephens (AIAA J) 594
Theoretical and experimental study of the drag of single- and multielement airfoils. Lawrence E. Olson, William D. James, and Phillip R. McGowan (JA) 462
Three-dimensional viscous-inviscid coupling using surface transpiration. L.A. Lemmerman and V.R. Sonnad (JA) 353
Tilt nacelle aerodynamics and its application to fan blade stresses. R. J. Shaw, R.C. Williams, and J.L. Koncsek (JA) 591
Unsteady pressure measurements on rotor blade tips with incidence. Hermann Triebstein (AIAA J) 514
Use of experimental separation limits in the theoretical design of V/STOL inlets. Michael A. Boles and Norbert O. Stockman. (JA) 29
Vectoring nonaxisymmetric nozzle jet induced effects on a V/STOL fighter model. W. C. Schnell and R. L. Grossman (JA) 863
Viscous drag computation for axisymmetric bodies at high Reynolds numbers. M. Fouad Zedan and Charles Dalton (JH) 52
Wing rock due to aerodynamic hysteresis. L.V. Schmidt (JA) 129

Cabin Environment, Crew Training, and Life Support

Computer-implemented grading of flight simulator students. F.L. Comstock and Hugo J.J. Uyttenhove (JA) 780
Laboratory fire testing of cabin materials used in commercial aircraft. C.P. Sarkos, J.C. Spurgeon, and E.B. Nicholas (JA) 78

Civil Missions and Transportation

Application of advanced high-speed turboprop technology to civil short-haul transport aircraft. John A. Conlon and Jeffrey V. Bowles (JA) 680

Configuration Design

Active control transport design criteria. Robert B. Harris and William W. Rickard (JA, SYN) 737
Application of laminar flow control to large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 170
Distributed load aircraft concepts. P.C. Whitener (JA) 72
Efficient algorithm for numerical airfoil optimization. Garret N. Vanderplaats (JA) 842
Flight test results for an advanced technology light airplane. David L. Kohlman (JA) 250
Historical overview of stall/spin characteristics of general aviation aircraft. Seth B. Anderson (JA) 455
Locked vortex afterbodies. B.H. Little Jr. and R.R. Whipkey (JA) 296
New method for designing shock-free transonic configurations. H. Sobieczky, N.J. Yu, K-Y. Fung, and A.R. Seebass (AIAA J) 722
Real flow limitations in supersonic airplane design. Robert M. Kulfan and Armand Sigalla (JA, SP) 645
Reduction of aerodynamic drag and fuel consumption for tractor-trailer vehicles. Vincent U. Muirhead and Edwin J. Saltzman (JE) 279
Rolling tail design and behavior as affected by actuator hinge moment limits. J.N. Ball (JA) 527
Some propulsion and control concepts for a Navy type A V/STOL airplane. J.M. Zabinsky (JA) 769
Subsonic VSTOL aircraft configurations with tandem wings. Julian Wolkovitch (JA) 605
Wing planforms for large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 425

Deceleration Systems

Airplane brake-energy analysis and stopping performance simulation. Mahinder K. Wahi (JA) 688
Computer-controlled video instrument for wind-tunnel testing of lifting parachutes. Robert H. Croll and Carl W. Peterson (JA) 269
Inflating parachute canopy differential pressures. Paul C. Klimas (JA) 861
Overtest results for the 7.3-m (24-ft) diameter hybrid Kelvar-29/nylon ribbon parachute. William B. Pepper (JA) 47
Static performance of vectoring/reversing nonaxisymmetric nozzles. C.M. Willard, F.J. Capone, M. Konarski, and H.L. Stevens (JA) 116
Tire runaway interface friction prediction model concept. Mahinder K. Wahi (JA) 407

Economics

Effects of wind on aircraft cruise performance. Francis J. Hale and Arthur R. Steiger (JA) 382
Electricity generation from jet-stream winds. C.A.J. Fletcher and B.W. Roberts (JE) 241

Flight Operations

Airborne detection of low-level wind shear. R. A. Greene (JA) 823
Comment on "Flight test of stick force stability in altitude-stabilized aircraft." W.O. Breuhaus (JA, TC) 639
--Reply by authors to W. O. Breuhaus. H. A. Mooij and M. F. C. van Gool (JA, TC) 640
Correlation of spray height data for jets impinging on water. Bruce C. Lubow (HJ, EN) 29
Effects of wind on aircraft cruise performance. Francis J. Hale and Arthur R. Steiger (JA) 382
Flight investigation and theory of direct side-force control. W. Brian Binnie and Robert F. Stengel (JGC) 471
In-flight simulation with pilot-center of gravity offset and velocity mismatch. Robert F. Stengel (JGC, EN) 538

Fuels and Fuel Systems

Demonstration of ultralightweight, evacuated, load-bearing, high-performance microsphere insulation system. R. T. Parmley and G.R. Cunnington Jr. (PS, V.65) 295
Enthalpies of combustion of ramjet fuels. N.K. Smith and W.D. Good (AIAA J, TN) 905
Investigation of electrostatic discharge in aircraft fuel tanks during refueling. E. Radgowski and R. Albrecht (JA) 506

General Aviation

Effect of forward acceleration on aerodynamic characteristics of wings. Shigenori Ando and Akio Ichikawa (AIAA J, TN) 653
Flight test results for an advanced technology light airplane. David L. Kohlman (JA) 250
Historical overview of stall/spin characteristics of general aviation aircraft. Seth B. Anderson (JA) 455

Ground Effect Machines

Duct effects on the dynamic fan characteristics of air cushion systems. M.J. Hinchey and P.A. Sullivan (JH, EN) 28
The 260-ton French amphibious hovercraft-Naviplane N 500. P. F. Guienne (JH) 33

Guidance and Control

Active control transport design criteria. Robert B. Harris and William W. Rickard (JA, SYN) 737
Active external store flutter suppression in the YF-17 flutter model. E. Nissim and I. Lottati (JGC) 395
Analysis of three-dimensional optimal evasion with linearized kinematics. J. Shinar, Y. Rotsztein and E. Bezner (JGC) 353
Approach guidance logic for a tilt-rotor aircraft. Jacques Beser (JGC) 528
Attitude stability of a pseudorate jet-controlled flexible spacecraft. R.A. Millar and F.R. Vigneron (JGC) 111
Automatic rollout control of the 747 airplane. C.J. Cotter and G.C. Cohen (JGC) 25
Choice of method for discretization of continous systems. E.S. McVey and Y.C. Lee (JGC, EN) 92
Comment on "A comparison of different forms of dirigible equations of motions." Alexander H. Flax (JGC, TC) 544
Comment on "Active flutter control using generalized unsteady aerodynamic theory." Ranjan Vepa (JGC, TC) 446
--Reply by authors to R. Vepa. John W. Edwards, John V. Breakwell, and Arthur E. Bryson Jr. (JGC, TC) 447
Comparison of different forms of dirigible equations of motion. J.R. Pretty and R.O. Hookway (JGC, EN) 154
Complete statistical analysis of nonlinear missile guidance systems —SLAM. Paul Zarchan (JGC) 71
Concept to enhance strapdown navigation on MaRV's. Thomas J. Duffy (JGC, EN) 542
Control law synthesis for active flutter suppression using optimal control theory. Jerry R. Newsom (JGC) 388
Elementary explanation of the flutter mechanism with active feedback controls. Hidetsugu Horikawa and Earl H. Dowell (JA) 225
Experimental investigation of control-display requirements for a jet-lift VTOL aircraft. J.V. Lebacqz and R.C. Radford (JGC) 479
Extension of Gauss' method for the solution of Kepler's equation. Richard H. Battin and Thomas J. Fill (JGC) 190
Flight investigation and theory of direct side-force control. W. Brian Binnie and Robert F. Stengel (JGC) 471
Flight through thunderstorm outflows. Walter Frost, Bill Crosby, and Dennis W. Camp (JA) 749
Generalized likelihood test for FDI in redundant sensor configurations. Kevin C. Daly, Eliezer Gai, and James V. Harrison (JGC) 9
High-accuracy calibration of electrostatic gyro strapdown navigation systems. R.L. Blanchard (JGC) 361
Interferometric attitude determination with the global positioning system. J.F. Ellis and G.A. Creswell (JGC) 522
Linearization of the boundary-layer equations of the minimum time-to-climb problem. Mark D. Ardema (JGC, EN) 434
Load factor response of digitally controlled aircraft. Dinesh A. Keskar and Gary L. Slater (JGC) 247
Method for error budgeting of inertial naviagation systems. Angus Andrews (JGC, EN) 438
Millimeter-wave missile seeker aimpoint wander phenomenon. D.T. Williams and W.H. Boykin (JGC) 196
Minimum and maximum endurance trajectories for gliding flight in a horizontal plane. Walton E. Williamson Jr. (JGC) 457
Minimum landing-approach distance for a sailplane. Bion L. Pierson and Imao Chen (JA, EN) 287
Multistep guaranteed cost control of linear systems with uncertain parameters. Aharon Vinkler and Lincoln J. Wood (JGC) 449
Optimal autostabilizer for a supersonic fighter aircraft. Y.S. Apte and V.V. Athani (JGC, SYN) 97
Optimal flight control synthesis via pilot modeling. David K. Schmidt (JGC) 308
Optimal guidance for homing missiles. Shaul Gutman (JGC) 296
Orientation vector differential equation. Gregory J. Nazaroff (JGC, EN) 351
Performance of a ring laser strapdown attitude and heading reference for aircraft. Carlo San Giovanni Jr. (JGC) 320

Ram-air-spoiler roll stabilization device for forward-control cruciform missiles. A.B. Blair Jr., Wallace C. Sawyer, and Charlie M. Jackson Jr. (JGC) 40
Representation of realistic evasive maneuvers by the use of shaping filters. Paul Zarchan (JGC) 290
Role of the backside parameter in height control. Kanichiro Kato, Shoichiro Mihara, and Hidetoshi Nakamura (JGC) 241
Selection of the guidance variable for a re-entry vehicle. Steven M. Archer and David D. Sworder (JGC) 130
Some formal effects of nonlinearities in optimal perturbation control. Warren W. Willman (JGC, SYN) 99
Vector methods in homing guidance. Malcolm J. Abzug (JGC, EN) 253
Wing store active flutter suppression — correlation of analyses and wind-tunnel data. T.E. Noll and L.J. Huttsell (JA) 491

Handling Qualities, Stability and Control

Active control transport design criteria. Robert B. Harris and William W. Rickard (JA, SYN) 737
Aeroservoelastic encounters. Larry R. Felt, Lawrence J. Huttsell, Thomas E. Noll, and Dale E. Cooley (JA) 477
Calculated hovering helicopter flight dynamics with a circulation-controlled rotor. Wayne Johnson and Inderjit Chopra (JA) 124
Comment on "Flight test of stick force stability in attitude-stabilized aircraft." W.O. Breuhaus (JA, TC) 639
--Reply by authors to W.O. Breuhaus. H.A. Mooij and M.F.C. van Gool (JA, TC)640
C/STOL flight in wind disturbed by the presence of buildings. Walter Frost, Ravi Reddy, Bill Crosby, and Dennis W. Camp (JA) 856
Design of desirable handling qualities for aircraft lateral dynamics. H. Ohta, P.N. Nikiforuk, and M.M. Gupta (JGC) 31
Dispersed fly-by-wire sensor system for improved combat survivability. Howard Berman and Jean Boudreau (JGC) 463
Effects of dynamic aeroelasticity on aircraft handling qualities. Robert L. Swaim and Wen-Yo Yen (JA, EN) 635
Experimental investigation of control-display requirements for a jet-lift VTOL aircraft. J.V. Lebacqz and R.C. Radford (JGC) 479
Flight investigation and theory of direct side-force control. W. Brian Binnie and Robert F. Stengel (JGC) 471
High-fidelity airplane simulation model. Hozo Yoshino (JA) 374
In-flight simulation with pilot-center of gravity offset and velocity mismatch. Robert F. Stengel (JGC, EN) 538
Maximum likelihood estimation of translational acceleration derivatives from flight data. Richard E. Maine and Kenneth W. Iliff (JA) 674
Multistep guaranteed cost control of linear systems with uncertain parameters. Aharon Vinkler and Lincoln J. Wood (JGC) 449
New look at $C_{n_{\dot{\beta},\,\mathrm{dyn}}}$. Robert A. Calico Jr. (JA, EN) 895
Observations on maximum likelihood estimation of aerodynamic characteristics from flight data. Kenneth W. Iliff and Richard E. Maine (JGC) 228
Optimal autostabilizer for a supersonic fighter aircraft. Y.S. Apte and V.V. Athani (JGC, SYN) 97
Optimal flight control synthesis via pilot modeling. David K. Schmidt (JGC) 308
Powered-lift aircraft handling qualities in the presence of atmospheric disturbances. Wayne F. Jewell, Robert K. Heffley, Warren F. Clement, and Thomas C. West (JA) 388
Rationale for human operator pulsive control behavior. Ronald A. Hess (JGC) 221
Role of the backside parameter in height control. Kanichiro Kato, Shoichiro Mihara, and Hidetoshi Nakamura (JGC) 241
Rolling tail design and behavior as affected by actuator hinge moments limits. J.N. Ball (JA) 527
Side-force alleviation on slender, pointed forebodies at high angles of attack. Dhanvada M. Rao (JA) 763
Some observations on the mechanism of aircraft wing rock. Chintsun Hwang and W.S. Pi (JA) 366
Wing rock due to aerodynamic hysteresis. L.V. Schmidt (JA) 129

Helicopters

A 2.5-MVA high-voltage lightweight generator. E.F. Hammond, Jr. W.S. Neff, and W.J. Shilling (JA) 55
Calculated hovering helicopter flight dynamics with a circulation-controlled rotor. Wayne Johnson and Inderjit Chopra (JA) 124
Calculation of rotor impedance for articulated-rotor helicopters in forward flight. Kanichiro Kato and Takashi Yamane (JA) 470
Calculation of rotor impedance for hovering articulated-rotor helicopters. Kanichiro Kato and Takashi Yamane (JA) 15
Examination of the flap-lag stability of rigid articulated rotor blades. K.R.V. Kaza and R.G. Kvaternik (JA) 876
Local momentum theory and its application to the rotary wing. Akira Azuma and Keiji Kawachi (JA) 6
Numerical prediction of typical articulated rotor impedance. Kanichiro Kato and Takashi Yamane (JA, SYN) 417
Some results of the testing of a full-scale Ogee-tip rotor. Wayne R. Mantay, Phillip A. Shidler, and Richard L. Campbell (JA) 215
Theoretical technique for analyzing aeroelastic stability of bearingless rotors. Dewey H. Hodges (AIAA J) 400

Landing Dynamics

Airplane brake-energy analysis and stopping performance simulation. Mahinder K. Wahi (JA) 688
Approach guidance logic for a tilt-rotor aircraft. Jacques Beser (JGC) 528
Minimum landing-approach distance for a sailplane. Bion L. Pierson and Imao Chen (JA, EN) 287
Tire runway interface friction prediction model concept. Mahinder K. Wahi (JA) 407

Lighter-than-Airships

Comment on "A comparison of different forms of dirigible equations of motion." Alexander H. Flax (JGC, TC) 544
Comparison of different forms of dirigible equations of motion. J.R. Pretty and R.O. Hookway (JGC) 154
Performance theory for hot air balloons. Karl Stefan (JA) 539
Viscous drag computation for axisymmetric bodies at high Reynolds numbers. M. Fouad Zedan and Charles Dalton (JH) 52
Zero-pressure balloon design. David L. Keese (AIAA J) 12

Military Missions

Aircraft operating environments around high-speed ships. James F. Marchman III (JH, SYN) 3
Analysis of three-dimensional optimal evasion with linearized kinematics. J. Shinar, Y. Rotsztein, and E. Beznar (JGC) 353
Dispersed fly-by-wire sensor system for improved combat survivability. Howard Berman and Jean Boudreau (JGC) 463
Required radar ranges for AEW aircraft. Jerome Bracken and Jeffrey H. Grotte (JA) 792

Navigation, Communication, and Traffic Control

Method of optimizing the update intervals in hybrid navigation systems. Cornelius T. Leondes, Ioannis A. Phillis, and Leonard Chin (JGC, EN) 541
Performance of a ring laser strapdown attitude and heading reference for aircraft. Carlo San Giovanni Jr. (JGC) 320
Simulation study of the operational effects of fuel-conservative approaches. Leonard Tobias, Everett A. Palmer, and Paul J. O'Brien (JA) 498

Noise

Application of advanced high-speed turboprop technology to civil short-haul transport aircraft. John A. Conlon and Jeffrey V. Bowles (JA) 680
Assessment of airframe noise. P.J.W. Block (JA) 834
Dipole modeling and nondimensionalization of airframe noise. Andrew B. Bauer (JA) 398
High-altitude long-range sonic boom propagation. A.R. George and Y.N. Kim (JA, EN) 637
Investigation of acoustic radiation from supersonic jets by double-pulse holgraphic interferometry. Ahmet Ozkul (AIAA J) 1068
Noise component method for airframe noise. Martin R. Fink (JA) 659
Nonlinear propagation of a wave packet in two-dimensional lined duct. Morgan S. Tsai (AIAA J, SYN) 129
Optimum wall impedance for spinning modes—a correlation with mode cutoff ratio. Edward J. Rice (JA) 336
Reduction of cabin noise during cruise conditions by stringer and frame damping. G. SenGupta (AIAA J) 229
Simulation of the pressure field near a jet by randomly distributed vortex rings. Y.T. Fung, C.H. Liu, and M.D. Gunzburger (AIAA J) 553
Some singular acoustic signatures observed in a jet aircraft. Sridhar M. Ramachandra (JA, SYN) 513
Technology status of jet noise suppression concepts for advanced supersonic transports. W.T. Rowe, E.S. Johnson, and R.A. McKinnon (JA) 95
Transmission of acoustic plane waves at a jet exhaust. Robert H. Schlinker (JA) 188
Workshop report for the 4th AIAA Aeroacoustics Conference. Craig D. Simcox (JA) 35

Performance

Aerodynamic effects induced by a vectored high aspect ratio nonaxisymmetric exhaust nozzle. Douglas L. Bowers (JA) 515
Application of advanced high-speed turboprop technology to civil short-haul transport aircraft. John A. Conlon and Jeffrey V. Bowles (JA) 680
Application of laminar flow control to large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 170
Effect of forward acceleration on aerodynamic charactertistics of wings. Shigenori Ando and Akio Ichikawa (AIAA J, TN) 653

Effect of spanwise blowing on the aerodynamic characteristics of the F-5E. Gary E. Erickson (JA) 695
Effects of airframe-inlet integration on half-axisymmetric and two-dimensional supersonic inlet performance. Lewis E. Surber and Dennis Sedlock (JA) 612
Effects of wind on aircraft cruise performance. Francis J. Hale and Arthur R. Steiger (JA) 382
Flight test results for an advanced technology light airplane. David L. Kohlman (JA) 250
Ground effects testing of two-, three-, and four-jet configurations. H.E. Sherrieb (JA) 393
Linearization of the boundary-layer equations of the minimum time-to-climb problem. Mark D. Ardema (JGC, EN) 434
Minimum landing-approach distance for a sailplane. Bion L. Pierson and Imao Chen (JA, EN) 287
Orbiter approach and landing tests—correlation of flight and predicted performance data. P.O. Romere, D.L. Eichblatt, J.M. Underwood, and D.B. Howes (JA) 233
Static performance of vectoring/reversing nonaxisymmetric nozzles. C.M. Willard, F.J. Capone, M. Konarski, and H.L. Stevens (JA) 116
Wing planforms for large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 425

Powerplant Design

Analytical and experimental investigation of difffusers for VSTOL thrust-augmenting ejectors. M.R. Seiler and E.F. Schum (JA,SYN) 643
Operational environment of Naval aircraft gas turbines. Scott M. Coté and James L. Byers (JA) 729

Propeller and Rotor Systems

Aeroelastic stability and response of horizontal axis wind turbine blades. S.B.R. Kottapalli, P.P. Friedman, and A. Rosen (AIAA J) 1381
Approach for estimating vibration characteristics of nonuniform rotor blades. K.-W. Lang and S. Nemat-Nasser (AIAA J) 995
Examination of the flap-lag stability of rigid articulated rotor blades. K.R.V. Kaza and R.G. Kvaternik (JA) 876
Rotor blade stability in turbulent flows - part 1. Y.K. Lin, Y. Fujimori, and S.T. Ariaratnam (AIAA J) 545
Rotor blade stability in turbulent flows - part II. Y. Fujimori, Y.K. Lin, and S.T. Ariaratnam (AIAA J) 673
Tilting wing overspeed control for vertical axis wind turbines. J.L. Loth (JE, TN) 375
Unsteady pressure measurements on rotor blade tips with incidence. Hermann Triebstein (AIAA J) 514

Simulation

Airplane brake-energy analysis and stopping performance simulation. Mahinder K. Wahi (JA) 688
Approach guidance logic for a tilt-rotor aircraft. Jacques Beser (JGC) 528
Choice of method for discretization of continuous systems. E.S. McVey and Y.C. Lee (JGC, EN) 92
Comment on "A comparison of different forms of dirigible equations of motion." Alexander H. Flax (JGC, TC) 544
Comparison of different forms of dirigible equations of motion. J.R. Pretty and R.O. Hookway (JGC, EN) 154
Complete statistical analysis of nonlinear missile guidance systems —SLAM. Paul Zarchan (JGC) 71
Computer-implemented grading of flight simulator students. F.L. Comstock and Hugo J.J. Uyttenhove (JA) 780
C/STOL flight in wind disturbed by the presence of buildings. Walter Frost, Ravi Reddy, Bill Crosby, and Dennis W. Camp (JA) 856
Effects of helmet loader cues on simulator pilot performance. B.R. Ashworth and B.T. McKissick (JA) 787
High-fidelity airplane simulation model. Hozo Yoshino (JA) 374
Indentification of a STOL propulsion plant model from flight data. Ronald L. DeHoff (JGC) 235
In-flight simulation with pilot-center of gravity offset and velocity mismatch. Robert F. Stengel (JGC, EN) 538
Nonlinear optimal cue-shaping filters for motion base simulators. Robert L. Kosut (JGC) 486
Powered-lift aircraft handling qualities in the presence of atmospheric disturbances. Wayne F. Jewell, Robert K. Heffley, Warren F. Clement, and Thomas C. West (JA) 388
Representation of realistic evasive maneuvers by the use of shaping filters. Paul Zarchan (JGC) 290
Simulation study of the operational effects of fuel-conservative approaches. Leonard Tobias, Everett A. Palmer, and Paul J. O'Brien (JA) 498

Structural Design (including Loads)

Accelerated mission testing of gas turbine engines. Jon S. Ogg and Wilson R. Taylor (JA) 247
Drones for aerodynamic and structural testing (DAST) — a status report. H.N. Murrow and C.V. Eckstrom (JA) 521
General panel sizing computer code and its application to composite structural panels. Melvin S. Anderson and W. Jefferson Stroud (AIAA J) 892
In-flight captive store loads compared with wind-tunnel and mathematical simulations. A.R. Maddox, R.E. Dix, and G.R. Mattasits (JA) 289
Quadrilateral plate element for laminated structure. Vichien Nopratvarakorn and Ju-chin Huang (AIAA J, TN) 95
Rolling tail design and behavior as affected by actuator hinge moment limits. J.N. Ball (JA) 527
Weight of x-ray shields for interceptor missiles. Thomas L. Cost (JSR) 172
Wing planforms for large military transports. Charles E. Jobe, Robert M. Kulfan, and John D. Vachal (JA) 425
Zero-pressure balloon design. David L. Keese (AIAA J) 12

Structural Materials

Design-to-cost with advanced composites and advanced metallics. Leonard Ascani and Leslie Lackman (JA) 714
Effects of purity on fatigue and fracture of 7XXX-T76511 aluminum extrusion. J.M. Van Orden, W.E. Krupp, E. Walden, and J.T. Ryder (JA) 327
Low-pressure diffusion bonding of titanium. J.F. Kenney and C. Deminet (JSR) 88
Shear properties of promising adhesives for bonded joints in composite material structures. D.L. Flaggs and J.R. Vinson (JA) 51
Thermal stresses in a plasma-sprayed ceramic gas path seal. Christopher M. Taylor and Robert C. Bill (JA) 239

Subsystem Design

A 2.5-MVA high-voltage lightweight generator. E.F. Hammond Jr., W.S. Neff, and W.H. Shilling (JA) 55
Design and experimental studies of a type A V/STOL inlet. H.C. Potonides, R.A. Cea, and T.F. Nelson (JA) 543
Inlet and duct for the QSRA boundary-layer control system. Daniel W. Gunnarson and Jack C. McArdle (JA) 303

Testing, Flight and Ground

Adaptive wind tunnels with imperfect control. W.R. Sears (JA) 344
Aerodynamic heating to the X-24C hypersonic research configuration. R.D. Neumann, J.L. Patterson, and N.J. Sliski (PS, V.65) 192
Aircraft wake flow effect and horizontal tail buffet. Chintsun Hwang and W.S. Pi (JA, EN) 282
Automatic rollout control of the 747 airplane. C.J. Cotter and G.C. Cohen (JGC) 25
Axisymmetric calculations of transonic wind tunnel interference in slotted test sections. K.R. Karlsson and Y. C.-J. Sedin (AIAA J, TN) 917
Computer-controlled video instrument for wind-tunnel testing of lifting parachutes. Robert H. Croll and Carl W. Peterson (JA) 269
Demonstration of aircraft wing/store flutter suppression systems. Chintsun Hwang, Bertil A. Winther, George R. Mills, Thomas E. Noll, and Moses G. Farmer (JA) 557
Development of electron beam welded, strain-gaged wind-tunnel balances. Bernd Ewald (JA) 349
Drones for aerodynamic and structural testing (DAST)—a status report. H.N. Murrow and C.V. Eckstrom (JA) 521
Full-scale wake flow measurements with a mobile Laser Doppler Velocimeter. D.J. Wilson, A.D. Zalay, M.R. Brashears, C.E. Craven, K.R. Shrider, and A.J. Jordan (JA) 155
Hot-film probe technique for monitoring shock-wave oscillations. Frederick W. Roos (JA) 871
Identification of a STOL propulsion plant model from flight data. Ronald L. DeHoff (JGC) 235
Improvement of flow quality at the University of Washington subsonic wind tunnel. Shojiro Shindo, William H. Rae Jr., Yoshio Aoki, and Eugene G. Hill (JA, SYN) 419
Improving large-scale testing capability by modifying the 40- by 80-ft wind tunnel. Kenneth W. Mort, Paul T. Soderman, and William T. Eckert (JA) 571
In-flight captive store loads with wind-tunnel and mathematical simulations. A.R. Maddox, R.E. Dix, and G.R. Mattasits (JA) 289
Influence of unsteady aerodynamics on extracted aircraft parameters. M.J. Queijo, William R. Wells, and Dinesh A. Keskar (JA) 708
Integration time required to extract accurate data from transonic wind-tunnel tests. Lado Muhlstein Jr. and Charles F. Coe (JA) 620
Investigation of electrostatic discharge in aircraft fuel tanks during refueling. E. Radgowski and R. Albrecht (JA) 506
Maximum likelihood estimation of translational acceleration derivatives from flight data. Richard E. Maine and Kenneth W. Iliff (JA) 674

Measured wake-vortex characteristics of aircraft in ground effect. Donald L. Ciffone and Barbara Pedley (JA) 102
Millimeter-wave missile seeker aimpoint wander phenomenon. D.T. Williams and W.H. Boykin Jr. (JGC) 196
Moving-ground simulation by tangential blowing. J.E. Hackett and R.A. Boles (JA) 803
New rotation-balance apparatus for measuring airplane spin aerodynamics in the wind tunnel. Gerald N. Malcolm (JA) 264
Observations on maximum likelihood estimation of aerodynamic characteristics from flight data. Kenneth W. Iliff and Richard E. Maine (JGC) 228
Orbiter approach and landing tests—correlation of flight and predicted performance data. P.O. Romere, D.L. Eichblatt, J.M. Underwood, and D.B. Howes (JA) 233
Powered-lift aircraft handling qualities in the presence of atmospheric disturbances. Wayne F. Jewell, Robert K. Heffley, Warren F. Clement, and Thomas C. West (JA) 388
Shock tube as a device for testing transonic airfoils at high Reynolds numbers. William J. Cook, Leroy L. Presley, and Gary T. Chapman (AIAA J) 714
Some observations on the mechanism of aircraft wing rock. Chintsun Hwang and W.S. Pi (JA) 366
Some results of the testing of a full-scale Ogee-tip rotor. Wayne R. Mantay, Phillip A. Shidler, and Richard L. Campbell (JA) 215
Use of sound absorbing walls to reduce dynamic interference in wind tunnels. Dennis G. Mabey (AIAA J, SYN) 334
Wind-tunnel blockage correction for two-dimensional transonic flow James A. Blackwell Jr. (JA) 256

Vibration

Approach for estimating vibration characteristics of nonuniform rotor blades. K.-W. Lang and S. Nemat-Nasser (AIAA J) 995
Calculation of rotor impedance for articulated-rotor helicopters in forward flight. Kanichiro Kato and Takashi Yamane (JA) 470
Calculation of rotor impedance for hovering acticulated-rotor helicopters. Kanichiro Kato and Takashi Yamane (JA) 15
Design procedures for flutter-free surface panels. Robert M. Laurenson, James I. McPherson, and Charles. P. Shore (AIAA J, SYN) 398
Direct solutions for Sturm-Liouville systems with discontinuous coefficents. Dewey H. Hodges (AIAA J, TN) 924
Finite-element solution of the supersonic flutter of conical shells. Maher N. Bismarck-Nasr and Hely R. Costa Savio (AIAA J, TN) 1148
Fluid-structure interaction dynamics in aircraft fuel tanks. M.A. Ferman and W.H. Unger (JA) 885
Numerical prediction of typical articulated rotor impedance. Kanichiro Kato and Takashi Yamane (JA, SYN) 417
Rapid calculation of the resonance frequency for rotationally restrained rectangular plates. Esam M. Nassar (AIAA J) 6
Reduction of cabin noise during cruise conditions by stringer and frame damping. G. SenGupta (AIAA J) 229
Vibration statistics of thin plates with complex form. Aleksander Waberski (AIAA J, ERR) 544

ENERGY

Alternate Fuels

Characteristic time correlation for combustion inefficiency from alternative fuels. D. A. Schmidt and A.M. Mellor (JE) 167
Combustion performance of gas turbine combustors burning alternative fuels. D.R. Ballal and A.H. Lefebvre (JE) 50
Drag reduction by cooling in hydrogen-fueled aircraft. Eli Reshotko (JA) 584
Evaluation of control options for solar climate control systems. Jane H. Pejsa, Khanh H. Nguyen, and Stephanie A. Wenzler (JE, TN) 183
Fuel development for open-loop combustion-driven MHD power generation. Allan S. Myerson and Christopher F. Harris (JE, TN) 120
Particle trajectories in turbine cascades. R.P. Dring, J.R. Caspar, and M. Suo (JE) 161
Research and development and the price of oil. George A. Hazelrigg Jr. and Keith R. Lietzke (JE) 349
Size distribution and surface area measurements of gas turbine combustor smoke. W.R. Wyatt, J.A. Clark, J.E. Peters, and A.M. Mellor (JE) 285

Combustion Efficiency

Characteristic time correlation for combustion inefficiency from alternative fuels. D. A. Schmidt and A.M. Mellor (JE) 167
Coalescence/dispersion modeling of high-intensity combustion. David T. Pratt (JE) 177
Experiments in coal devolatilization and combustion. Frederic A. Lyman (PS, V.63) 297
Holography of solid propellant combustion. R.A. Briones and R.F. Wuerker (PS, V.63) 251

Conservation

Domestic hot water heating using hot air solar collectors. J.L. Loth (JE, TN) 377
Experiments with gravity-assisted heat pipes with and without circumferential grooves. Karl Thomas Feldman Jr. and Satish Munje (JE) 211
Evaluation of control options for solar climate control systems. Jane H. Pejsa, Khanh H. Nguyen, and Stephanie A. Wenzler (JE, TN) 183
Mechanical energy storage systems: compressed air and underground pumped hydro. H.H. Chiu, L.W. Rodgers, Z.A. Saleem, R.K. Ahluwalia, G.T. Kartsounes, and F. W. Ahrens (JE) 131
Performance evaluation of gravity-assisted copper-water heat pipes with liquid overfill. H. Ngugen Chi and A. Abhat (AIAA J) 1003
Reduction of aerodynamic drag and fuel consumption for tractor-trailer vehicles. Vincent U. Muirhead and Edwin J. Saltzman (JE) 279
Statisical bounds for the effective thermal conductivity of microsphere and fibrous insulation. C.L. Tien and K. Vafai (PS, V.65) 135

Cryogenics

Demonstration of an ultralightweight, evacuated, load-bearing, high-performance microsphere insulation system. R. T. Parmley and G.R. Cunnington Jr. (PS, V.65) 295
Design and test evaluation of a solid cryogen cooler insulation system. J.E. Ahern and T.W. Lawson (PS, V.65) 307

Exploration and Recovery

Automated guidance and control of long wall mining machines. E. R. Palowitch and P.H. Broussard Jr. (JE) 329

Hydroelectric Power

Mechanical energy storage systems: compressed air and underground pumped hydro. H.H. Chiu, L.W. Rodgers, Z.A. Saleem, R.K. Ahluwalia, G.T. Kartsounes, and F.W. Ahrens (JE) 131
Multiple pump stage loading of a variable-rpm wind turbine. S. Eskinazi and R. Goethals (JE) 114

Hydrogen and Unique Fuels

Demonstration of an ultralightweight, evacated, load-bearing, high-performance michrosphere insulation system. R. T. Parmley and G.R. Cunnington Jr. (PS, V.65) 295

MHD

Current distribution at the end regions of a magnetohydrodynamic channel. M.L. Mittal and P.R.L. Sarma (JE,TN) 181
Fuel development for open-loop combustion-driven MHD power generation. Allan S. Myerson and Christopher F. Harris (JE, TN) 120
Numerical solutions of transient MHD phenomena. L.A. Feldman and J.E. Burkhalter (AIAA J, SYN) 227
Performance of disk generators for open-cycle MHD power generation. Takashi Nakamura and Marion K. Jenkins (JE) 217
Simplified correlations for prediction of NO_x emissions from MHD power plants. J. Hopenfeld (JE) 335
Three-dimensional effects of electrode configuration on diagonal MHD generator performance. Takehisa Hara and Juro Umoto (JE) 16

Microwaves

Variable-frequency driver-microwave transient regression rate measurement system. L.D. Strand and R.P. McNamara (PS, V.63) 155

Nuclear Fission

Pyrolysis model for an alpha waste incinerator prototype. D.I. Orloff (JE) 90
Separation factors for UF_6 isotopes accelerated by helium expanding spherically into a vacuum. Kenichi Nanbu (JE, SYN) 67
Transient heat conduction from buried underground radiactive nuclear waste. P.B. Wells and E.A. Bathke (JE) 227

Photovoltaic Power

Photovoltaics and solar thermal conversion to electricity: status and prospects. Marshall E. Alper (JE) 263
Space-manufactured satellite power systems. R.H. Miller and D.L. Akin (JE, TN) 373
Thermal and other tests of photovoltaic modules performed in natural sunlight. James W. Stultz (JE) 363

Rotating Machinery

A 2.5-MVA high-voltage lightweight generator. E.F. Hammond, Jr., W.S. Neff, and W.H. Shilling (JA) 55
Augmenting the condenser heat-transfer performance of rotating heat pipes. P.J. Marto and L.L. Wagenseil (AIAA J) 647
Characteristics of the near wake of a compressor of a fan rotor blade. B. Reynolds, B. Lakshminarayana, and A. Ravindranath (AIAA J) 959
Particle trajectories in turbine cascades. R.P. Dring, J.R. Caspar, and M. Suo (JE) 161
Particle trajectories near an airfoil with a film-cooled leading edge. M. Suo, W.P. Patrick, and B.V. Johnson (JE) 156
Shock structure in transonic compressor rotors. A.H. Epstein, J.L. Kerrebrock, and W.T. Thompkins Jr. (AIAA J) 375
Some singular acoustic signatures observed in a jet aircraft. Sridhar M. Ramachandra (JA, SYN) 513
Tilting wing overspeed control for vertical axis wind turbines. J.L. Loth (JE, TN) 375

Solar Thermal Power

Absence of bending effects on solar-receiver-tube fatigue. J. Jones (JE, TN) 187
Comment on "SPS cost considerations." George A. Hazelrigg Jr. (JE, TC) 125
--Reply by author to G. Hazelrigg. Gordon R. Woodcock (JE, TC) 126
Conceptual design of sodium-cooled central receiver solar power plant. B.D. Pomeroy, and R.M. Salemme (JE) 299
Developmental of a multipurpose radiometer. Reagan S. Redman and Calvin M. Wolff (JSR, EN) 350
Domestic hot water heating using hot air solar collectors. J.L. Loth (JE, TN) 377
Effect of cover material and plastic honeycomb on collector performance. R.K. Wedel, R.E. Dammann, and S.A. Greenberg (JE, TN) 62
Effect of optical surface properties on high-temperature solar thermal energy conversion. L. Wen (JE) 82
Experiments with heliostats for central receiver power plants. John P. Thornton and David Waddington (JE) 69
Flat-plate solar collector design and sizing. John R. Howell (JE, TN) 379
Heat-transfer considerations in groovelike solar collectors. Hassan Nabavi and Richard B. Bannerot (PS, V.65) 229
High-temperature solar photon engines. A.T. Mattick, A. Hertzberg, R. Decher, and C.V. Lau (JE) 30
Method to determine an optimal air-flow rate in solar collectors. H.C. Hewitt Jr. and E.I. Griggs (JE) 357
Nontracking moderately focusing heat pipe solar collector. Charles C. Roberts Jr. (JE, TN) 122
Orientation studies for single-axis concentrating collectors. Sheldon Jeter, J.I. Craig, and E.G. Grems (JE) 151
Performance characteristics of a 1.8x3.7 m Fresnel lens solar concentrator. Leon J. Hastings and Steve L. Allums (JE, SYN) 65
Performance theory for hot air balloons. Karl Stefan (JA) 539
Photovoltaics and solar thermal conversion to electricity: status and prospects. Marshall E. Alper (JE) 263
Solar energy storage using reversible hydration-dehydration of CaO-$Ca(OH)_2$. J.K. Rosemary, G.L. Bauerle, and T.H. Springer (JE,SYN) 321
Solar thermoelectric power generation for Mercury orbiter missions. M. Swerdling and V. Raag (JE) 291
Stratification enhancement in liquid thermal storage tanks. R.I. Loehrke, J.C. Holzer, H.N. Gari, and M.K. Sharp (JE, SYN) 129
Stratified thermal storage in residential solar energy applications. M.K. Sharp and R.I. Loehrke (JE) 106
Thermal analysis of some flat-plate solar collector designs for improving performance. D.L. Siebers and R. Viskanta (JE) 8
Thermal and other tests of photovoltaic modules performed in natural sunlight. James W. Stultz (JE) 363

Thermoelectric

Solar thermoelectric power generation for Mercury orbiter missions. M. Swerdling and V. Raag (JE) 291

Wind Power

Aeroelastic stability and response of horizontal axis wind turbine blades. S.B.R. Kottapalli, P.P. Friedmann, A. Rosen (AIAA J) 1381
Applications of wind tunnels to investigation of wind-engineering problems. J.E. Cermak (AIAA J, SP) 679
Comment on "Wind power limitations associated with vortices." C.T. Hsu (JE, TC) 127
--Reply by author to C.T. Hsu. J.L. Loth (JE, TC)128
Electricity generation from jet-stream winds. C.A.J. Fletcher and B.W. Roberts (JE) 241
Energy effectiveness of arbitrary arrays of wind turbines. P.B.S. Lissaman (JE) 323
Experimental demonstration of the diffuser-augmented wind turbine concept. Barry L. Gilbert and Kenneth M. Foreman (JE) 235
Free vortices from a wing for wind turbine systems. I. Paraschivoiu and E. Bilgen (JE, TN) 190
Lanchester-Betz limit. Karl H. Bergey (JE, TN) 382
Multiple pump stage loading of a variable-rpm wind turbine. S. Eskinazi and R. Goethals (JE) 114
On the weathervaning of wind turbines. R.H. Miller (JE, TN) 319
Optimum selection of a wind turbine generator system. J.K. Shultis, L.A. Poch, and N.D. Eckhoff (JE) 145
Parametric performance analysis of a Darrieus wind turbine system. David F. Bowles, John P. Rollins, and Roger J. Hawks (JE) 140
Pedal wind turbine. Thuraisingam Vinayagalingam (JE, TN) 254
Performance of windmills in a closely spaced array. Bernard M. Pershing (JE, TN) 185
Studies of the aerodynamic performance of a 10kW horizontal-axis windmill. R.L. Figard and J.A. Schetz (JE) 3
Study of a vortex augmentor for a wind-powered turbine. James E. Hubbartt (JE) 344
Tilting wing overspeed control for vertical axis wind turbines. J.L. Loth (JE, TN) 375

FLUID DYNAMICS

Aeroacoustics

Acoustic and flow characteristics of cold high-speed coaxial jets. M.R. Bassiouni and D.S. Dosanjh (AIAA J) 153
Acoustic suppression in a pulsed chemical laser. Darrell R. Ausherman, Irwin E. Alber, and Eric Baum (AIAA J) 490
Assessment of airframe noise. P.J.W. Block (JA) 834
Asymmetry of a circular jet observed in near and far fields. Kingo Yamamoto and Roger E.A. Arndt (AIAA J, TN) 533
Dipole modeling and nondimensionalization of airframe noise. Andrew B. Bauer (JA) 398
Evaluation of optimized multisectioned acoustic liners. Kenneth J. Baumeister (AIAA J) 1185
Filterized azimuthal correlations in the acoustic far field of a subsonic jet. Daniel Juvé, Michel Sunyach, and Geneviève Comte-Bellot (AIAA J, TN) 112
Fluctuating pressures on mildly indented nosetips. J. Peter Reding (JSR) 302
High-altitude long-range sonic boom propagation. A.R. George and Y. N. Kim (JA, EN) 637
Investigation of acoustic radiation from supersonic jets by double-pulse holographic interferometry. Ahmet Ozkul (AIAA J) 1068
Large signal-to-noise technique for unsteady pressure measurements. T.C. Corke and H.M. Nagib (AIAA J, TN) 114
Noise component method for airframe noise. Martin R. Fink (JA) 659
Nonlinear propagation of a wave packet in a two-dimensional lined duct. Morgan S. Tsai (AIAA J, SYN) 129
Observations of the oscillatory behavior of a confined ring vortex. M.P. Escudier and P. Merkli (AIAA J) 253
Optimum wall impedance for spinning modes—a correlation with mode cutoff ratio. Edward J. Rice (JA) 336
Peak Strouhal frequency of subsonic jet noise as a function of Reynolds number. Kingo Yamamoto and Roger E.A. Arndt (AIAA J, TN) 529
Propagation of sound waves through a linear shear layer. James N. Scott (AIAA J) 237
Reduction of cabin noise during cruise conditions by stringer and frame damping. G. SenGupta (AIAA J) 229
Scaling of fluctuating pressures in jet impingement. J.K. Haviland and W.W. Herling (JA) 182
Simulation of the pressure field near a jet by randomly distributed vortex rings. Y.T. Fung, C.H. Liu, and M.D. Gunzburger (AIAA J) 553
Some results of the testing of a full-scale Ogee-tip rotor. Wayne R. Mantay, Phillip A. Shidler, and Richard L. Campbell (JA) 215
Some singular acoustic signatures observed in a jet aircraft. Sridhar M. Ramachandra (JA, SYN) 513
Sound production due to large-scale coherent structures. Thomas B. Gatski (AIAA J) 614
Spectra of turbulent static pressure fluctuations in jet mixing layers. B.G. Jones, R.J. Adrian, C.K. Nithianandan, and H.P. Planchon Jr. (AIAA J) 449
Subsonic base pressure fluctuations. R.A. Merz (AIAA J, TN) 436
Transmission of acoustic plane waves at a jet exhaust. Robert H. Schlinker (JA) 188
Visualization of quasiperiodic flows. Robert A. Kadlec and Sanford S. Davis (AIAA J) 1164
Workshop report for the 4th AIAA Aeroacoustics Conference. Craig D. Simcox (JA) 35

Boundary Layers and Convective Heat Transfer—Laminar

Boundary-layer charged-particle density profiles in an atmospheric pressure plasma flow. M. Suzuki and A. Kanzawa (AIAA J) 1320

Comment on "Experimental determination of the discharge coefficients for critical flow through an axisymmetric nozzle." George Emanuel (AIAA J, TC) 125
--Reply by authors to G. Emanuel, S.P. Tang and J.B. Fenn (AIAA J, TC) 126
Exact similar solution for an axisymmetric laminar boundary layer on a circular cone. B.R. Clayton and B.S. Massey (AIAA J, TN) 785
Laminar film cooling experiments in hypersonic flow. B.E. Richards and J.L. Stollery (JA) 177
Nonlinear hypersonic viscous crossflow effects on slender vehicle dynamics. Lars E. Ericsson (AIAA J) 586
Numerical solution for airfoils near stall in optimized boundary-fitted curvilinear coordinates. James K. Hodge, Alan L. Stone, and Thomas E. Miller (AIAA J) 458
On the calculation of laminar and turbulent boundary layers on longitudinally curved surfaces. Tuncer Cebeci, R.S. Hirsh, and J.H. Whitelaw (AIAA J, TN) 434
Pressure gradient effects on laminar boundary layers at large Prandtl numbers. R. Gopinath and A. V. Murthy (AIAA J, SYN) 1153
Shock-tube investigation of heat transfer in the base region of a slender cone-hemisphere. B.S.C. Kim (PS, V.64) 278
Singularities in unsteady boundary layers. P. Bradshaw (AIAA J, TN) 790
Solutions to higher-order boundary-layer equations for flow over a semi-infinite plate. L.K. Chi and Shih-liang Wen (AIAA J, TN) 915
Surface curvature effects on three-dimensional blunt-body boundary layers. D.L. Dwoyer, Clark H. Lewis, and P.R. Gogineni (AIAA J, SYN) 133
Transport physics and mathematical characteristics. Gustave Hokenson (AIAA J, TN) 781
Unsteady flow arising from rotating fluid above a fixed plane. W.H.H. Banks and M.B. Zaturska (AIAA J, TN) 1263

Boundary Layers and Convective Heat Transfer—Turbulent

Aerothermodynamic assessment of corrugated panel thermal protection systems. Harold J. Brandon, Allen H. Britt, and James C. Dunavant (PS, V.64) 387
Analytical description of the complete turbulent boundary-layer velocity profile. David L. Whitfield (AIAA J, TN) 1145
Artificially thickening a smooth-wall turbulent boundary layer. Phillip M. Ligrani and Robert J. Moffat (AIAA J, TN) 907
Ballistics applied to rapid-fire guns. Otto K. Heiney (PS, V.66) 87
Behavior of a turbulent boundary layer subjected to sudden transverse strain. Hiroshi Higuchi and Morris W. Rubesin (AIAA J) 931
Calculation of flow in the tail region of a body of revolution. Edward W. Geller (JH, EN) 127
Calculation of separated boundary-layer flows. Tuncer Cebeci, E.E. Khalil, and J.H. Whitelaw (AIAA J, SYN 1291
Calculation of turbulent-inviscid flow interactions with large normal pressure gradients. H.E.H. Mahgoub and P. Bradshaw (AIAA J) 1025
Comment on "Calculation of incompressible rough-wall boundary-layer flows." A.F. Mills (AIAA J, TC) 220
--Reply by authors to A.F. Mills. Tuncer Cebeci and K.C. Chang (AIAA J, TC) 221
Comment on "Wall shear stress measurements in a shock-wave boundary-layer interaction." Robert D. Kirchner (AIAA J, RF) 670
--Reply by authors to R.D. Kirchner. William C. Rose and V. Sreedhara Murthy (AIAA J, RF) 671
Comparison of multiequation turbulence models for several shock boundary-layer interaction flows. J.R. Viegas and C.C. Horstman (AIAA J) 811
Computation of three-dimensional turbulent separated flows at supersonic speeds. C.C. Horstman and C.M. Hung (AIAA J, SYN) 1155
Detailed study of attached and separated compression corner flowfields in high Reynolds number supersonic flow. Gary S. Settles, Thomas J. Fitzpatrick, and Seymour M. Bogdonoff (AIAA J) 579
Drag and heat-transfer characteristics of small longitudinally ribbed surfaces. M.J. Walsh and L.M. Weinstein (AIAA J, SYN) 770
Erosive burning study of composite solid propellants by turbulent boundary-layer approach. M.R. Razdan and K.K. Kuo (AIAA J) 1225
Experimental and computational investigation of a swept-wing flow at subsonic speeds. A. Bertelrud (JA) 742
Explicit expression for the smooth wall velocity distribution in a turbulent boundary layer. A. J. Musker (AIAA J, TN) 655
Flat plate turbulent boundary layers subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 105
Flying-hot-wire study of flow past an NACA 4412 airfoil at maximum lift. Donald Coles and Alan J. Wadcock (AIAA J) 321
Generalized velocities in the outer region of hypersonic turbulent boundary layers. Ralph D. Watson (AIAA J, TN) 919
Investigation of turbulent boundary-layer separation using laser velocimetry. D. Modarress and D.A. Johnson (AIAA J) 747
Measurements of flows with tangential injection and comparison with prediction methods. R.J. Kind, K. Gooden, and F.A. Dvorak (AIAA J)730
Measurements of transition-front asymmetries on ablating graphite nosetips in hypersonic flight. Daniel C. Reda and Richard M. Raper (AIAA J) 120i
Nature of boundary-layer turbulence at a high subsonic speed. V. Zakkay V. Barra, and C.R. Wang (AIAA J) 356
On the calculation of laminar and turbulent boundary layers on logitudinally curved surfaces. Tuncer Cebeci, R.S. Hirsh, and J.H. Whitelaw (AIAA J, TN) 434
Pressure and velocity measurements in a three-dimensional wall jet. G.D. Catalano, J.B. Morton, and R.R. Humphris (AIAA J, SYN) 332
Reynolds number effects on the turbulence field in compressible boundary layers. M. Acharya, C.C. Horstman, and M.I. Kussoy (AIAA J) 380
Similarities of turbulence structure in a conical diffuser with other wall-bounded flows. R.S. Azad and R.H. Hummel (AIAA J) 884
Surface curvature effects on three-dimensional blunt-body boundary layers. D.L. Dwoyers, Clark H. Lewis, and P.R. Gogineni (AIAA J, SYN) 133
Surface roughness effects on a Mach 6 turbulent boundary layer. D.E. Berg (AIAA J, SYN) 929
Temperature sensitivity and erosive burning. Robert L. Glick (JSR, EN) 58
Thick axisymmetric turbulent boundary layer on a circular cylinder. Nuray Denli and Louis Landweber (JH) 92
Transonic shock/boundary-layer interaction subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 1404
Transonic shock-boundary-layer interactions in cryogenic wind tunnels. G.R. Inger (JA, EN) 284
Turbulent compressible boundary layer with heat-transfer effects on conditions at the sublayer. Robert W. Wilson (AIAA J, TN) 777
Turbulent shear stresses in compressible boundary layers. A.J. Laderman and Anthony Demetriades (AIAA J) 736
Undisturbed heat-transfer data analysis on the space shuttle external tank barrel section. S. C. Praharaj (PS, V.65) 215
Universal trends observed in the maxima of the longitudinal velocity fluctuations and the zero crossings in turbulent flows. M.A. Badri Narayanan (AIAA J, TN) 527

Boundary-Layer Stability and Transition

Application of digital Fourier analysis in processing dynamic aerodynamic heating measurements. Leroy M. Jenke (AIAA J, SYN) 641
Artificially induced boundary-layer transition on blunt-slender cones at hypersonic speeds. A.H. Boudreau (JSR) 245
Axial compressor blade optimization in the low Reynolds number regime. William B. Roberts (AIAA J) 1361
Boundary-layer transition experiments on sharp, slender cones in supersonic free flight. Daniel C. Reda (AIAA J) 803
Drag reduction by cooling in hydrogen-fueled aircraft. Eli Reshotko (JA) 584
Estimates of critical Reynolds number for a heated flat plate in water. William S. King (JH, EN) 125
Nature of boundary-layer turbulence at a high subsonic speed. V. Zakkay, V. Barra, and C.R. Wang (AIAA J) 356
Relation between temporal and spatial stability in three-dimensional flows. A.H. Nayfeh and A. Padhye (AIAA J) 1084
Stability of inviscid shear flow over flexible membranes. Wilson C. Chin (AIAA J, TN) 665
Use of experimental separation limits in the theoretical design of V/STOL inlets. Michael A. Boles and Norbert O. Stockman (JA) 29

Computational Methods

Application of the finite-element method to transonic flows with shocks. Aspi Rustom Wadia (AIAA J, TN) 1141
Approximate analysis of strake wings at low speeds. S.K, Chakrabartty and B.C. Basu (AIAA J, TN) 432
Artificial compressibility methods for numerical solutions of transonic full potential equation. M. Hafez, J. South, and E. Murman (AIAA J) 838
Axisymmetric calculations of transonic wind tunnel interference in slotted test sections. K.R. Karlsson and Y.C.-J. Sedin (AIAA J, TN) 917
Calculation of flow in the tail region of a body of revolution. Edward W. Geller (JH, EN) 127
Calculation of separated boundary-layer flows. Tuncer Cebeci, E.E. Khalil, and J.H. Whitelaw (AIAA J, SYN) 1291
Collimation of high-speed flow with thermal spread losses. David R. Taeusch (AIAA J, TN) 787
Comment on "Centerline formulation in the numerical computation of axisymmetric flows" and "Conservation errors in axisymmetric finite difference equations." Raymond Edelman and Philip T. Harsha (AIAA J, RF) 1151

--Reply by author to R. Edelman and P.T. Harsha. Peter C. Sukanek (AIAA J, RF) 1152
Comparison of multiequation turbulence models for several shock boundary-layer interaction flows. J.R. Viegas and C.C. Horstman (AIAA J) 811
Complete statistical analysis of nonlinear missile guidance systems —SLAM. Paul Zarchan (JGC) 71
Computation of the viscous supersonic flow over external axial corners. Paul Kutler, Thomas H. Pulliam, and Yvon C. Vigneron (AIAA J) 571
Computation of three-dimensional potential flow using surface vorticity distribution. Pradeep Raj and Robin B. Gray (JA) 162
Computation of three-dimensional turbulent separated flows at supersonic speeds. C.C. Horstman and C.M. Hung (AIAA J, SYN) 1155
Computational aerodynamics development and outlook. Dean R. Chapman (AIAA J, Dryden Lectureship in Research) 1293
Computational scheme for calculating the plume backflow region. Basil P. Cooper Jr. (JSR, EN) 284
Conservation errors in axisymmetric finite-difference equations. Peter C. Sukanek (AIAA J, TN) 99
Conservative implicit method for shock wave calculations. Sambasiva R. Mulpuru and Sanjoy Banerjee (AIAA J, TN) 537
Direct testing of subgrid-scale models. O.J. McMillan and J.H. Ferziger (AIAA J) 1340
Downstream mixing gasdynamic lasers—a numerical solution. K.N. Parthasarathy, J.D. Anderson Jr., and E. Jones (AIAA J) 1208
Dynamic response of axisymmetric solids subjected to impact and spin. Gordon R. Johnson (AIAA J) 975
Effect of frequency in unsteady transonic flow. Donald P. Rizzetta and Wilson C. Chin (AIAA J, TN) 779
Effect of suction on a shock-separated boundary layer—a numerical study. Y. Tassa and N.L. Sankar (AIAA J, TN) 1268
Experimental and computational investigation of a swept-wing flow at subsonic speeds. A. Bertelrud (JA) 742
Fast, conservative schemes for the full potential equation applied to transonic flows. Terry L. Holst and William F. Ballhaus (AIAA J) 145
Finite-element approach to compressor blade-to-blade cascade analysis. Wagdi G. Habashi, Ernest G. Dueck, and David P. Kenny (AIAA J) 693
Flowfield modeling in practical combustors: a review. David G. Lilley (JE, SP) 193
Formulas for spanwise distribution of lift on aircraft wings. Wilson C. Obi (JA, EN) 733
Geometric conservation law and its application to flow computations on moving grids. P.D. Thomas and C.K. Lombard (AIAA J) 1030
Hypersonic viscous flows over sphere cones at high angles of attack. John D. Waskiewicz and Clark H. Lewis (AIAA J, SYN) 131
Implicit algorithm for the conservative transonic full-potential equation using an arbitrary mesh. Terry L. Holst (AIAA J) 1038
Improved higher-order panel method for linearized supersonic flow. F.E. Ehlers, M.A. Epton, F.T. Johnson, A.E. Magnus, and P.E. Rubbert (AIAA J, SYN) 225
Improved wave drag predictions using modified linear theory. Robert T. Stancil (JA) 41
Inviscid model of two-dimensional vortex shedding by a circular cylinder. Turgut Sarpkaya and Ray L. Schoaff (AIAA J) 1193
Leading-edge singularity in transonic small-disturbance theory: numerical resolution. Barbara L. Keyfitz, Robert E. Melnik, and Bernard Grossman (AIAA J, TN) 296
Local momentum theory and its application to the rotary wing. Akira Azuma and Keiji Kawachi (JA) 6
Matching procedure for viscous-inviscid interactive calculations. W. Johnston and P. Sockol (AIAA J, TN) 661
Mathematical modeling of recoilless rifle interior ballistics. Aivars K. Celmins (PS, V.66) 113
Modeling parameter influences in gas turbine combustor design. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 257
Modified one-equation model of turbulence for the calculation of free shear flows. M.A. El-Hawary (AIAA J, TN) 303
New approach to the 3-D transonic flow analysis using the STAR-100 computer. David D. Redhed, Allen W. Chen, and Steven G. Hotovy (AIAA J, TN) 98
New method for designing shock-free transonic configurations. H. Sobieczky, N.J. Yu, K-Y. Fung, and A.R. Seebass (AIAA J) 722
Numerical calculation of transonic potential flow about wing-body combinations. D.A. Caughey and Antony Jameson (AIAA J) 175
Numerical procedure for the computation of irrotational conical flow. B. Grossman (AIAA J) 828
Numerical simulation of combustor flowfields: a primitive variable design capability. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 95
Numerical solution for airfoils near stall in optimized boundary-fitted curvilinear coordinates. James K. Hodge, Alan L. Stone, and Thomas E. Miller (AIAA J) 458
Numerical solution of the two-dimensional premixed laminar flame equations. S.L. Aly, R.B. Simpson, and C.E. Hermance (AIAA J) 56
Numerical solution of two-dimensional turbulent blunt body flows with an impinging shock. J.C. Tannehill, Yvon C. Vigneron, and John V. Rakich (AIAA J, SYN) 1289
Numerical solutions of hypersonic viscous shock-layer equations. B.N. Srivastava, M.J. Werle, and R.T. Davis (AIAA J, TN) 107
Numerical solutions of transient MHD phenomena. L.A. Feldman and J.E. Burkhalter (AIAA J, SYN) 227
Numerical study of the interaction of fast chemistry and diffusion. G.R. Otey and H.A. Dwyer (AIAA J) 606
Numerical technique for the triple-deck problem. M. Napolitano, M.J. Werle, and R.T. Davis (AIAA J) 699
Optimization of triangular laced truss columns with tubular compression members for space application. Chai Hong Yoo (AIAA J, TN) 921
Overlaid viscous/inviscid model for the prediction of near-field jet entrainment. S.M. Dash, R.G. Wilmoth, and H.S. Pergament (AIAA J) 950
Parabolic procedure for flows in ducts with arbitrary cross sections. Donald W. Roberts and Clifford K. Forester (AIAA J) 33
Penalty function solution of steady-state Navier-Stokes equations. Juan C. Heinrich and Robert S. Marshall (AIAA J, TN) 789
Potential flow analysis of multielement airfoils using conformal mapping. N.D. Halsey (AIAA J) 1281
Practical interior ballistic analysis of guns. Paul G. Baer (PS, V.66) 37
Prediction of critical Mach number for store configurations. James W. Purvis and John E. Burkhalter (AIAA J) 1170
Pseudo-unsteady method for the computation of transonic potential flows. J.P. Veuillot and H. Viviand (AIAA J, SYN) 691
Real gas laminar boundary-layer separation prediction methodology. Hideo Ikawa (AIAA J, SYN) 1157
Representation of realistic evasive maneuvers by the use of shaping filters. Paul Zarchan (JGC) 290
Second-order-accurate calculation of transonic flow over turbomachinery cascades. David C. Ives and John F. Liutermoza (AIAA J) 870
Separation factors for UF_6 isotopes accelerated by helium expanding spherically into a vacuum. Kenichi Nanbu (JE, SYN) 67
Sixth-order accurate direct solver for the Poisson and Helmholtz equations. Patrick J. Roache (AIAA J, TN) 524
Solid rocket motor plume and ablation study. G.R. Moore, L.P. Anderson Jr., C.H. Lewis, and A.L. Murray (PS, V.64) 265
Structure of the conical flowfield about external axial corners. Manuel D. Salas and James Daywitt (AIAA J) 41
Surface curvature effects on three-dimensional blunt-body boundary layers. D.L. Dwoyer, Clark H. Lewis, and P.R. Gogineni (AIAA J, SYN) 133
Theory of high-muzzle-velocity guns. Arnold E. Seigel (PS, V.66) 135
Transonic flows past nonaxisymmetric slender shapes—classical equivalence rule analysis. Stephen S. Stahara and John R. Spreiter (AIAA J) 245
Three-dimensional viscous-inviscid coupling using surface transpiration. L.A. Lemmerman and V.R. Sonnad (JA) 353
Use of primitive variables in the solution of incompressible Navier-Stokes equations. K.N. Ghia, W.L. Hankey Jr., and J.K. Hodge (AIAA J, TN) 298
Use of vortex discretization in establishing weak shock diffraction patterns. M.I.G. Bloor and R.A. Evans (AIAA J) 1046
Vapor flow calculations in a flat-plate heat pipe. H. van Ooijen and C.J. Hoogendoorn (AIAA J) 1251

Hydrodynamics

Application of the vortex-lattice technique to arbitrary bodies. K.R. Asfar, D.T. Mook, and A.H. Nayfeh (JA) 421
Artificially thickening a smooth-wall turbulent boundary layer. Phillip M. Ligrani and Robert J. Moffat (AIAA J, TN) 907
Axisymmetric mixing layer: influence of the initial and boundary conditions. Z.D. Husain and A.K.M.F. Hussain (AIAA J) 48
Calculation of flow in the tail region of a body of revolution. Edward W. Geller (JH, EN) 127
Correlation of spray height data for jets impinging on water. Bruce C. Lubow (JH, EN) 29
Definition of yaw meter sensitivity for the "null reading" technique. Adrian Millward (JH, EN) 130
Effect of vibration on retention characteristics of screen acquisition systems. J.R. Tegart and J.C. Aydelott (JSR) 319
Experiments on the diffusion of smoke in isotropic turbulent flow. Mohamed Gad-el-Hak and J.B. Morton (AIAA J) 558
Horizontal buoyancy effects on the pressure distribution of a body in a duct. Gerald C. Lauchle (JH) 61
Improved higher-order panel method for linearized supersonic flow. F.E. Ehlers, M.A. Epton, F.T. Johnson, A.E. Magnus, and P.E. Rubbert (AIAAJ, SYN) 225
Introduction to gun interior ballistics and a simplified ballistic code. Herman Krier and Michael J. Adams (PS, V.66) 1
Inviscid model of two-dimensional vortex shedding by a circular cylinder. Turgut Sarpkaya and Ray L. Schoaff (AIAA J) 1193
Kinematic wave approach to hydraulic jumps with waves. Wilson C. Chin (JH) 120

On isotropic two-dimensional turbulence. E.R. Van Driest (AIAA J, TN) 439
Screening of liquids for thermocapillary bubble movement. William R. Wilcox, R. Shankar Subramanian, John M. Papazian, Harry D. Smith, and Douglas M. Mattox (AIAA J, TN) 1022
Seakeeping quality of advanced marine vehicles for design applications. M.D. Ochi and D.D. Moran (JH) 85
Solutions to higher-order boundary-layer equations for flow over a semi-infinite plate. L.K. Chi and Shih-liang Wen (AIAA J, TN) 915
Stratification enhancement in liquid thermal storage tanks. R.I. Loehrke, J.C. Holzer, H.N. Gari, and M.K. Sharp (JE, SYN) 129
Two-point LDV measurements in a plane mixing layer. M.M. Koochesfahani, C.J. Catherasoo, P.E. Dimotakis, M. Gharib, and D.B. Lang (AIAA J) 1347
Viscous drag computation for axisymmetric bodies at high Reynolds numbers. M. Fouad Zedan and Charles Dalton (JH) 52

Jet, Wakes, and Viscid-Inviscid Flow Interactions

Acoustic and flow characteristics of cold high-speed coaxial jets. M.R. Bassiouni and D.S. Dosanjh (AIAA J) 153
Aircraft wake flow effect and horizontal tail buffet. Chintsun Hwang and W.S. Pi (JA, EN) 282
Analysis method for viscous flow over circulation-controlled airfoils. F.A. Dvorak and R.J. Kind (JA) 23
Analyis of axially symmetric external burning propulsion for bluff-base bodies. Gopal K. Mehta and Warren C. Strahle (AIAA J, SYN) 269
Axisymmetric mixing layer: influence of the initial and boundary conditions. Z.D. Husain and A.K.M.F. Hussain (AIAA J) 48
Axisymmetric transonic turbulent base pressures. J.S.K. Liu and W.L. Chow (AIAA J, SYN) 330
Calculation of turbulent-inviscid flow interactions with large normal pressure gradients. H.E.H. Mahgoub and P. Bradshaw (AIAA J) 1025
Characteristics of the near wake of a compressor of a fan rotor blade. B. Reynolds, B. Lakshminarayana, and A. Ravindranath (AIAA J) 959
Chemically reacting, turbulent shear layer. R. Breidenthal (AIAA J, TN) 310
Comment on "Centerline formulation in the numerical computation of axisymmetric flows" and "Conservation errors in axisymmetric finite difference equations." Raymond Edelman and Philip T. Harsha (AIAA J, RF) 1151
--Reply by author to R. Edelman and P.T. Harsha. Peter C. Sukanek (AIAA J, RF) 1152
Comment on "Flow past nonconical wings with separation." J.H.B. Smith (JA, TC) 576
--Reply by author to J.H.B. Smith. N.R. Subramanian (JA, TC) 576
Comment on "Wind power limitations associated with vortices." C.T. Hsu (JE, TC) 127
--Reply by author to C.T. Hsu. J.L. Loth (JE, TC) 128
Correlation of spray height data for jets impinging on water. Bruce C. Lubow (JH, EN) 29
Criteria for asymptotic supersonic two-dimensional turbulent wakes. Michael J. Walsh (AIAA J, TN) 783
Criterion for vortex periodicity in cylinder wakes. Lars E. Ericsson and J. Peter Reding (AIAA J, TN) 1012
Cylinder/splitter-plate data illustrating high α support interference. Robert C. Nelson and Thomas N. Mouch (JSR, EN) 126
Degradation of a laser beam by a two-dimensional turbulent jet. G.F. Cudahy, J.T. Van Kuren, and H.E. Wright (AIAA J) 1091
Development of an afterbody radiative and convective heating code for outer planet probes. D.N. Brant and D.E. Nestler (PS, V.64) 345
Effect of Reynolds number on laminar separation of a supersonic stream. Odus R. Burggraf, D. Rizzetta, M.J. Werle, and V.N. Vatsa (AIAA J) 336
Effect of suction on a shock-separated boundary layer—a numerical study. Y. Tassa and N.L. Sankar (AIAA J, TN) 1268
Effects of axial and radial air injection on the near wake with and without external compression. D.H. Neale, J.E. Hubbartt, and W.C. Strahle (AIAA J, TN) 301
Energy effectiveness of arbitrary arrays of wind turbines. P.B.S. Lissaman (JE) 323
Evaluation of a locally homogeneous flow model of spray evaporation. A.J. Shearer, H. Tamura, and G.M. Faeth (JE) 271
Experimental study of a jet issuing from a lifting wing. H.M. McMahon and D.L. Antani (JA) 275
Experimental study of flow near the trailing edge of a flat plate in rarefied gas. L. Gottesdiener (AIAA J) 1159
Experiments on the diffusion of smoke in isotropic turbulent flow. Mohamed Gad-el-Hak and J.B. Morton (AIAA J) 558
Filterized azimuthal correlations in the acoustic far field of a subsonic jet. Daniel Juvé, Michel Sunyach, and Genevieve Comte-Bellot (AIAA J, TN) 112
Flow about a propeller-driven body in temperature-stratified fluid. T.F. Swean Jr. and J.A. Schetz (AIAA J) 863
Flow around an isolated porous tube with nonuniform wall thickness. Kwok-On Tong and Charles J. Knight (AIAA J, TN) 1262
Flow past nonconical wings with separation. S.V. Ramakrishnan and N.R. Subramanian (JA, ERR) 576
Fluctuating pressures on mildly indented nosetips. J. Peter Reding (JSR) 302
Full-scale wake flow measurements with a mobile Laser Doppler Velocimeter. D.J. Wilson, A.D. Zalay, M.R. Brashears, C.E. Craven, K.R. Shrider, and A.J. Jordon (JA) 155
Hot-wire, laser-anemometer, and force measurements of interacting trailing vortices. J.D. Iversen, V.R. Corsiglia, S. Park, D.R. Backhus, and R.A. Brickman (JA) 448
Hysteresis zone or locus—aerodynamics of bulbous based bodies at low speeds. Eugene E. Covert (AIAA J, TN) 659
Improved free-vortex, subsonic aerodynamic window. Joel M. Avidor (AIAA J, TN) 1267
Installed performance of vectoring/reversing nonaxisymmetric nozzles. P.E. Hiley, D.E. Kitzmiller, and C.M. Willard (JA) 532
Interaction between the unsteady boundary layer and inviscid hot flow in a shock tube. D. Zeitoun and M. Imbert (AIAA J) 821
Investigation of three-dimensional turbulent rectangular jets. A.A. Sfeir (AIAA J) 1055
Kinetic model for aerosol formation in rocket contrails. J.W. Meyer (AIAA J) 135
Large-amplitude fluctuations of velocity and incidence on an oscillating airfoil. Daniel Favier, Jean Rebont, and Christian Maresca (AIAA J, TN) 1265
Laser-induced I_2 fluorescence measurements in a chemical laser flowfield. N.L. Rapagnani and S.J. Davis (AIAA J, TN) 1402
Locked vortex afterbodies. B.H. Little Jr. and R. R. Whipkey (JA) 296
Mass injection and jet flow simulation effects on transonic afterbody drag. Wladimiro Calarese and Ronald E. Walterick (JA) 433
Matching procedure for viscous-inviscid interactive calculations. W.Johnston and P. Sockol (AIAA J, TN) 661
Measured wake-vortex characteristics of aircraft in ground effect. Donald L. Ciffone and Barbara Pedley (JA) 102
Measurements in a large-angle oblique jet impingement flow. J.F. Foss (AIAA J, SYN) 801
Measurements of flowfield properties in a gasdynamic laser nozzle wake. C.W. Peterson (AIAA J) 854
Measurements of flows with tangential injection and comparison with prediction methods. R.J. Kind, K. Gooden, and F.A. Dvorak (AIAA J) 730
Modes of turbulent vortex shedding from a pipe-jet system in a cross-flow. John W. Trischka (AIAA J, TN) 315
Modified one-equation model of turbulence for the calculation of free shear flows. M.A. El-Hawary (AIAA J, TN) 303
Multiple equilibrium vortex positions in symmetric shedding from slender bodies. D. Weihs and M. Boasson (AIAA J, TN) 213
Numerical solution for airfoils near stall in optimized boundary-fitted curvilinear coordinates. James K. Hodge, Alan L. Stone, and Thomas E. Miller (AIAA J) 458
Numerical solution of a body-propeller combination flow including swirl and comparisons with data. Joseph A. Schetz and Stanley Favin (JH) 46
On-axis velocity component measurement with laser velocimeters. Sudhakar Neti and Wayne Clark (AIAA J, TN) 1013
Overexpanded two-dimensional transonic free jet. R.D. Small (AIAA J, TN) 307
Overlaid viscous/inviscid model for the prediction of near-field jet entrainment. S.M. Dash, R.G. Wilmoth, and H.S. Pergament (AIAA J) 950
Peak Strouhal frequency of subsonic jet noise as a function of Reynolds number. Kingo Yamamoto and Roger E.A. Arndt (AIAA J, TN) 529
Performance of windmills in a closely spaced array. Bernard M. Pershing (JE, TN) 185
Prediction of a three-dimensional circular turbulent jet in crossflow. D. Adler and A. Baron (AIAA J) 168
Pressure and velocity measurements in a three-dimensional wall jet. G.D. Catalano, J.B. Morton, and R.R. Humphris (AIAA J, SYN) 332
Properties of aspect-ratio-4.0 rectangular jets in a subsonic crossflow. Robert P. Weston and Frank C. Thames (JA) 701
Rayleigh scattering measurements of time-resolved concentration in a turbulent propane jet. T. Michal Dyer (AIAA J, TN) 912
Real gas laminar boundary-layer separation prediction methodology. Hideo Ikawa (AIAA J, SYN) 1157
Scaling of fluctuating pressures in jet impingement. J.K. Haviland and W.W. Herling (JA) 182
Side-force alleviation on slender, pointed forebodies at high angles of attack. Dhanvada M. Rao (JA) 763
Simple recompression model for the Korst base pressure theory. John H. Fox (AIAA J, TN) 311
Simulation of the pressure field near a jet by randomly distributed vortex rings. Y.T. Fung, C.H. Liu, and M.D. Gunzburger (AIAA J) 553
Some exact solutions to Guderley's equation. Wilson C. Chin (AIAA J, TN) 438

Some measurements in radial free jets. Rajni P. Patel (AIAA J, TN) 657
Spectra of turbulent static pressure fluctuations in jet mixing layers. B.G. Jones, R.J. Adrian, C.K. Nithianandan, and H.P. Planchon Jr. (AIAA J) 449
Study of a vortex augmentor for a wind-powered turbine. James E. Hubbartt (JE) 344
Subsonic base pressure fluctuations. R.A. Merz (AIAA J, TN) 436
Supersonic laminar boundary-layer separation by slot injection. M.J. Werle (AIAA J) 160
Techniques for the experimental investigation of the near wake of a circular cylinder. R. W. Wlezien and J.L. Way (AIAA J) 563
Theoretical and experimental study of the drag of single- and multielement airfoils. Lawrence E. Olson, William D. James, and Phillip R. McGowan (JA) 462
Three-dimensional supersonic interacting turbulent flow along a corner. J.S. Shang, W.L. Hankey, and J.S. Petty (AIAA J) 706
Two-dimensional supersonic jet impingement on a flat plate. T.-F. Zien, K.-Y. Chien, and R.T. Driftmyer (AIAA J, SYN) 4
Two-point LDV measurements in a plane mixing layer. M.M. Koochesfahani, C.J. Catherasoo, P.E. Dimotakis, M. Gharib, and D.B. Lang (AIAA J) 1347
Universal trends observed in the maxima of the longitudinal velocity fluctuations and the zero crossings in turbulent flows. M.A. Badri Narayanan (AIAA J, TN) 527
Use of matched pressure initial conditions for predicting low-altitude rocket plume radiation. B.E. Pearce and S.M. Dash (AIAA J, TN) 667
Wind-tunnel measurements of the surface pressure distribution on a spinning Magnus rotor. Miles C. Miller (JA) 815

Multiphase Flows

Augmenting the condenser heat-transfer performance of rotating heat pipes. P.J. Marto and L.L. Wagenseil (AIAA J) 647
Charge design considerations and their effect on pressure waves in guns. Ingo W. May and Albert W. Horst (PS, V.66) 197
Entrainment limits in heat pipes. C.L. Tien and K.S. Chung (AIAA J) 643
Erosion prediction near a stagnation point resulting from aerodynamically entrained solid particles. J.A. Laitone (JA) 809
Evaluation of a locally homogeneous flow model of spray evaporation. A.J. Shearer, H. Tamura, and G.M. Faeth (JE) 271
Experiments on the diffusion of smoke in isotropic turbulent flow. Mohamed Gad-el-Hak and J.B. Morton (AIAA J) 558
Interior ballistic modeling applied to small-arms systems. Sidney Goldstein (PS, V.66) 67
Kinetic model for aerosol formation in rocket contrails. J.W. Meyer (AIAA J) 135
Modeling heterogeneous two-phase reacting flow. P.S. Gough and F.J. Zwarts (AIAA J) 17
Modeling of two-phase flow in guns. P.S. Gough (PS, V.66) 176
Particle size analysis in solid propellant combustion research. Karl J. Kraeutle (PS, V.63) 76
Practical interior ballistic analysis of guns. Paul G. Baer (PS, V.66) 37
Remarks on dusty hypersonic wedge flow. Ronald M. Barron and J. Thomas Wiley (AIAA J, TN) 317
Theoretical modeling of rapid surface vaporization with back pressure. Charles J. Knight (AIAA J) 519

Nonsteady Aerodynamics

Accurate numerical evaluation of modified Struve functions occuring in unsteady aerodynamics. R.N. Desmarais (JA) 441
Aerodynamics characteristics of an unsteady separated flow. M.S. Francis, J.E. Keesee, J.D. Lang, G.W. Sparks Jr., and G.E. Sisson (AIAA J) 1332
Aeroelasticity research for turbomachine applications. Sanford Fleeter (JA) 320
Criterion for vortex periodicity in cylinder wakes. Lars E. Ericsson and J. Peter Reding (AIAA J, TN) 1012
Design and experimental studies of a type A V/STOL inlet. H.C. Potonides, R.A. Cea, and T.F. Nelson (JA) 543
Effect of frequency in unsteady transonic flow. Donald P. Rizzetta and Wilson C. Chin (AIAA J, TN) 779
High-fidelity airplane simulation model. Hozo Yoshino (JA) 374
Hot-film probe technique for monitoring shock-wave oscillations. Frederick W. Roos (JA) 871
Hypersonic aerothermoelastic characteristics of a finned missile. L.E. Ericsson, B.O. Almroth, and J.A. Bailie (JSR) 187
Inflating parachute canopy differential pressures. Paul C. Klimas (JA) 861
Influence of unsteady aerodynamics on extracted aircraft parameters. M.J. Queijo, William R. Wells, and Dinesh A. Keskar (JA) 708
Interaction between the unsteady boundary layer and inviscid hot flow in a shock tube. D. Zeitoun and M. Imbert (AIAA J) 821
Large-amplitude fluctuations of velocity and incidence on an oscillating airfoil. Daniel Favier, Jean Rebont, and Christian Maresca (AIAA J, TN) 1265
Linearization of unsteady transonic flows containing shocks. M.H. Williams (AIAA J) 394
Maximum likelihood estimation of translational acceleration derivatives from flight data. Richard E. Maine and Kenneth W. Iliff (JA) 674
Measurement of unsteady parameters in reheat combustion instabilities. A.E. Smart, B. Jones, and N.T. Jewell (PS, V.63) 221
Method for calculating wing loading during maneuvering flight along a three-dimensional curved path. J. Katz (JA) 739
Modeling of momentum transfer to a surface by laser-supported absorption waves. J.P. Reilly, A. Ballantyne, and J.A. Woodroffe (AIAA J) 1098
Nonlinear hypersonic viscous crossflow effects on slender vehicle dynamics. Lars E. Ericsson (AIAA J) 586
Observations of the oscillatory behavior of a confined ring vortex. M.P. Escudier and P. Merkli (AIAA J) 253
On the transonic-dip mechanism of flutter of a sweptback wing. Koji Isogai (AIAA J, TN) 793
On unsteady transonic shock motions. David Nixon (AIAA J, TN) 1143
Settling times of pressure measurements through capillary tubes. Junzo Sato (AIAA J) 1061
Shock-wave oscillations in a transonic diffuser flow. C.P. Chen, M. Sajben, and J.C. Kroutil (AIAA J) 1076
Simplified unsteady aerodynamic concepts with application to parameter estimation. William R. Wells and M.J. Queijo (JA) 90
Singularities in unsteady boundary layers. P. Bradshaw (AIAA J, TN) 790
Stability of inviscid shear flow over flexible membranes. Wilson C. Chin (AIAA J, TN) 665
Technique for vorticity measurement in unsteady flow. J.E. Keesee, M.S. Francis, and J.D. Lang (AIAA J) 387
Techniques for the experimental investigation of the near wake of a circular cylinder. R.W. Wlezien and J.L. Way (AIAA J) 563
Time-dependent response of a two-dimensional airfoil in transonic flow. D.P. Rizzetta (AIAA J) 26
Time-variant aerodynamics of oscillating airfoil surfaces in a supersonic flowfield. Sanford Fleeter and Ronald E. Riffel (AIAA J) 465
Unsteady aerodynamic modeling for arbitrary motions. John W. Edwards, Holt Ashley, and John V. Breakwell (AIAA J) 365
Unsteady flow arising from rotating fluid above a fixed plane. W.H.H. Banks and M.B. Zaturska (AIAA J, TN) 1263
Use of cylindrical hot films in unsteady flows. J.C. Bennett (AIAA J, TN) 215
Use of sound absorbing walls to reduce dynamic interference in wind tunnels. Dennis G. Mabey (AIAA J, SYN) 334
Visualization of quasiperiodic flows. Robert A. Kadlec and Sanford S. Davis (AIAA J) 1164

Nozzle and Channel flow

Analytical and experimental investigation of diffusers for VSTOL thrust-augmenting ejectors. M.R. Seiler and E.F. Schum (JA) 643
Analytical study of laser-supported combustion waves in hydrogen. Nelson H. Kemp and Robert G. Root (JE) 40
Application of the finite-element method to transonic flows with shocks. Aspi Rustom Wadia (AIAA J, TN) 1141
Comment on "Experimental determination of the discharge coefficients for critical flow through an axisymmetric nozzle." George Emanuel (AIAA J, TC) 125
--Reply by authors to G. Emanuel. S.P. Tang and J.B. Fenn (AIAA J, TC) 126
Convective heat flux in a laser-heated thruster. Peter K.S. Wu (JSR, EN) 56
Effects of nonconstant enthalpy addition on fan-nozzle combinations. Gordon C. Oates and Walter M. Presz Jr. (JA, EN) 891
Horizontal buoyancy effects on the pressure distribution of a body in a duct. Gerald C. Lauchle (JH) 61
Influence of the physical model on the vibration relaxation in expansion flows. J.G. Meolans, C. Nicoli, and R. Brun (AIAA J, TN) 1260
Investigation of three-dimensional turbulent rectangular jets. A.A. Sfeir (AIAA J) 1055
Location and magnitude of cascade shock loss by high-speed smoke visualization. William B. Roberts and John A. Slovisky (AIAA J, TN) 1270
Mathematical modeling of recoilless rifle interior ballistics. Aivars K. Celmins (PS, V.66) 113
Nozzle flow in a laser-heated hydrogen rocket. Nelson H. Kemp and Robert G. Root (JSR, SYN) 65
Optimum design of wind tunnel contractions. M.N. Mikhail (AIAA J) 471
Performance potential of advanced GDL concepts. P.E. Cassady, A.L. Pindroh, and J.F. Newton (AIAA J) 845
Shock-wave oscillations in a transonic diffuser flow. C.P. Chen, M. Sajben, and J.C. Kroutil (AIAA J) 1076
Similarities of turbulence structure in a conical diffuser with other wall-bounded flows. R.S. Azad and R.H. Hummel (AIAA J) 884

Total pressure recovery of flared fan nozzles used as inlets. T.G. Keith Jr., T.N. Obee, and D.A. Dietrich (JA) 110
Two-dimensional mathematical model of a nonbuoyant jet in a crossflow. Milorad Lj. Bojić and S. Eskinazi (AIAA J) 1050
Use of vortex discretization in establishing weak shock diffration patters. M.I.G. Bloor and R.A. Evans (AIAA J) 1046

Plasma Dynamics and MHD

Boundary-layer charged-particle density profiles in an atmospheric pressure plasma flow. M. Suzuki and A. Kanzawa (AIAA J) 1320
Electron attachment at high temperatures. Ven H. Shui, Param I. Singh, Bennett Kivel, and Ellen R. Bressel (AIAA J) 1178
MPD thruster test on the space shuttle. Kyoichi Kuriki (JSR) 326
Numerical solutions of transient MHD phenomena. L.A. Feldman and J.E. Burkhalter (AIAA J, SYN) 227
Performance of a closed-cycle MHD generator with molecular impurities. M. Zlatanovic, A. Veefind, and L.H. Th. Rietjens (JE) 23
Performance of disk generators for open-cycle MHD power generation. Takashi Nakamura and Marion K. Jenkins (JE) 217
Simplified correlations for prediction of NO_x emissions from MHD power plants. J. Hopenfeld (JE) 335
Thermal analysis of a conical cathode of an MPD arc. R.C. Mehta (AIAA J, TN) 1272

Radiatively Coupled Flows and Heat Transfer

Aerothermodynamic environment for Jovian entry with silica heat shield. Michael J. Green and William E. Nicolet (PS, V.64) 108
Analytical study of laser-supported combustion waves in hydrogen. Nelson H. Kemp and Robert G. Root (JE) 40
Approximate inviscid radiating flowfield analysis for outer planet entry probes. E.V. Zoby, K. Sutton, W.B. Olstad, and J.N. Moss (PS, V.64) 42
Comment on "Hypersonic free molecular heating of micron size particulate." Nelson H. Kemp (AIAA J, RF) 445
--Reply by author to N.H. Kemp. Dennis R. Hall (AIAA J, RF) 446
Convective heat flux in a laser-heated thruster. Peter K.S. Wu (JSR, EN) 56
Effects of atmospheric structure on radiative heating for Jupiter entry probe. K. Sutton, J.J. Jones, and R.W. Powell (PS, V.64) 3
Effects of precursor heating on chemical and radiative nonequilibrium viscous flow around a Jovian entry body. S.N. Tiwari and K. Y. Szema (PS, V.64) 129
Heat-transfer considerations in groovelike solar collectors. Hassan Nabavi and Richard B. Bannerot (PS, V.65) 229
Influence of precursor heating on viscous flow around a Jovian entry body. S.N. Tiwari and K.Y. Szema (PS, V.64) 80
Jupiter probe heat-shield configuration optimization. Ray B. Dirling Jr. and John D. Binder (PS, V.64) 321
Nozzle flow in a laser-heated hydrogen rocket. Nelson H. Kemp and Robert G. Root (JSR, SYN) 65
Radiating viscous shock-layer solutions for Jovian entry at angle of attack. Ajay Kumar, S.N. Tiwari, and R.A. Graves Jr. (PS, V.64) 147
Radiative flux penetration through a blown shock layer for Jupiter entry conditions. James N. Moss, Jim J. Jones, and Ann L. Simmonds (PS, V.64) 22

Rarefied Flows

Aerodynamic separation of gases by velocity slip in freejet expansions. R. J. Cattolica, R.J. Gallagher, J.B. Anderson, and L. Talbot (AIAA J) 344
Collimation of high-speed flow with thermal spread losses. David R. Taeush (AIAA J, TN) 787
Control of contamination in cryogenically cooled satellite telescopes. M. Murakami (JSR, SYN) 193
Experimental study of flow near the trailing edge of a flat plate in rarefied gas. L. Gottesdiener (AIAA J) 1159
Satellite drag coefficients calculated from measured distributions of reflected helium atoms. Shih-Min Liu, Pramod K. Sharma, and Eldon L. Knuth (AIAA J) 1314
Transport physics and mathematical characteristics. Gustave Hokenson (AIAA J, TN) 781

Reactive Flows

Aerothermodynamic environment for Jovian entry with silica heat shield. Michael J. Green and William E. Nicolet (PS, V.64) 108
Boundary-layer charged-particle density profiles in an atmospheric pressure plasma flow. M. Suzuki and A. Kanzawa (AIAA J) 1320
Chemically reacting, turbulent shear layer. R. Breidenthal (AIAA J, TN) 310
Coalescence/dispersion modeling of high-density combustion. David T. Pratt (JE) 177
Effects of precursor heating on chemical and radiative nonequilibrium viscous flow around a Jovian entry body. S.N. Tiwari and K.Y. Szema (PS, V.64) 129
Electron attachment at high temperatures. Ven H. Shui, Param I. Singh, Bennett Kivel, and Ellen R. Bressel (AIAA J) 1178
Erosive burning study of composite solid propellants by turbulent boundary-layer approach. M.K. Razdan and K.K. Kuo (AIAA J) 1225
Influence of precursor heating on viscous flow around a Jovian entry body. S.N. Tiwari and K.Y. Szema (PS, V.64) 80
Inhomogeneous broadening effects in cw chemical lasers. Harold Mirels (AIAA J) 478
Modeling of two-phase flow in guns. P.S. Gough (PS, V.66) 176
Numerical study of the interaction of fast chemistry and diffusion. G.R. Otey and H.A. Dwyer (AIAA J) 606
Shock tube measurement of nitric oxide and atomic oxygen by chemiluminescent radiation. P.P. Ostrowski and E.K. Dabora (AIAA J) 898
Use of matched pressure initial conditions for predicting low-altitude rocket plume radiation. B.E. Pearce and S.M. Dash (AIAA J, TN) 667

Shock Waves and Detonations

Acoustic suppression in a pulsed chemical laser. Darrell R. Ausherman, Irwin E. Alber, and Eric Baum (AIAA J) 490
Blast waves produced by a time-dependent energy source. Y. Oved, F. Milinazzo, R.M. Clements, and P. R. Smy (AIAA J) 601
Conservative implicit method for shock wave calculations. Sambasiva R. Mulpuru and Sanjoy Banerjee (AIAA J, TN) 537
Detailed study of attached and separated compression corner flowfields in high Reynolds number supersonic flow. Gary S. Settles, Thomas J. Fitzpatrick, and Seymour M. Bogdonoff (AIAA J) 579
Effect of suction on a shock-separated boundary layer—a numerical study. Y. Tassa and N.L. Sankar (AIAA J, TN) 1268
Hot-film probe technique for monitoring shock-wave oscillations. Frederick W. Roos (JA) 871
Kinematic wave approach to hydraulic jumps with waves. Wilson C. Chin (JH) 120
Modeling of momentum transfer to a surface by laser-supported absorption waves. J.P. Reilly, A. Ballantyne, and J.A. Woodroffe (AIAA J) 1098
Real-time optical measurement of time-dependent shock position. M. Sajben and R.C. Crites (AIAA J, TN) 910
Shock-tube studies of atomic silicon emission in the spectral range 180 to 300 nm. S.G. Prakash and Chul Park (PS, V.64) 245
Supersonic flow over a deep cavity for a laser application. Peter Shen (AIAA J, TN) 216
Transonic shock-boundary-layer interactions in cryogenic wind tunnels. G.R. Inger (JA, EN) 284
Use of vortex discretization in establishing weak shock diffraction patterns. M.I.G. Bloor and R.A. Evans (AIAA J) 1046

Subsonic Flow

Approximate analysis of strake wings at low speeds. S.K. Chakrabartty and B.C. Basu (AIAA J, TN) 432
Cylinder/splitter-plate data illustrating high α support interference. Robert C. Nelson and Thomas N. Mouch (JSR, EN) 126
Derivation of an integral equation for three-dimensional transonic flows. Wandera Ogana (AIAA J, TN) 305
Experimental and computational investigation of a swept-wing flow at subsonic speeds. A. Bertelrud (JA) 742
Experimental demonstration of the diffuser-augmented wind turbine concept. Barry L. Gilbert and Kenneth M. Foreman (JE) 235
Flat plate turbulent boundary layers subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 105
Flow around an isolated porous tube with nonuniform wall thickness. Kwok-On Tong and Charles J. Knight (AIAA J, TN) 1262
Free vortices from a wing for wind turbine systems. I. Paraschivoiu and E. Bilgen (JE, TN) 190
Improved free-vortex, subsonic aerodynamic window. Joel M. Avidor (AIAA J, TN) 1267
Improvement of flow qualtity at the University of Washington subsonic wind tunnel. Shojiro Shindo, William H. Rae Jr., Yoshio Aoki, and Eugene G. Hill (JA, SYN) 419
Improving large-scale testing capability by modifying the 40- by80-ft wind tunnel. Kenneth W. Mort, Paul T. Soderman, and William T. Eckert (JA) 571
Inlet and duct for the QSRA boundary-layer control system. Daniel W. Gunnarson and Jack C. McArdle (JA) 303
Lifting-line theory of oblique wings in transonic flows. H.K. Cheng and S.Y. Meng (AIAA J, TN) 121
Nature of boundary-layer turbulence at a high subsonic speed. V. Zakkary, V. Barra, and C.R. Wang (AIAA J) 356
Numerical technique for the triple-deck problem. M. Napolitano, M.J. Werle, and R.T. Davis (AIAA J) 699
Optimum design of wind tunnel contractions. M.N. Mikhail (AIAA J) 471
Potential flow analysis of multielement airfoils using conformal mapping. N.D. Halsey (AIAA J) 1281

Prediction of critical Mach number for store configurations. James W. Purvis and John E. Burkhalter (AIAA J) 1170
Singularity at the trailing edge of a swept wing. Gordon J. Clapworthy (AIAA J, TN) 313
Some exact solutions to Guderley's equation. Wilson C. Chin (AIAA J, TN) 438
Spectra of turbulent static pressure fluctuations in jet mixing layers. B.G. Jones, R.J. Adrian, C.K. Nithianandan, and H.P. Planchon Jr. (AIAA J) 449
Study of a vortex augmentor for a wind-powered turbine. James E. Hubbartt (JE) 344
Theoretical and experimental study of the drag of single- and multielement airfoils. Lawrence E. Olson, William D. James, and Phillip R. McGowan (JA) 462
Three-dimensional viscous-inviscid coupling using surface transpiration. L.A. Lemmerman and V.R. Sonnad (JA) 353
Total pressure recovery of flared fan nozzles used as inlets. T.G. Keith Jr., T.N. Obee, and D.A. Dietrich (JA) 110
Transonic shock/boundary-layer interaction subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 1404

Supersonic and Hypersonic Flow

Acoustic and flow characteristics of cold high-speed coaxial jets. M.R. Bassiouni and D.S. Dosanjh (AIAA J) 153
Aerodynamic heating to the X-24C hypersonic research configuration. R.D. Neumann, J.L. Patterson, and N.J. Sliski (PS, V.65) 192
Analysis of axially symmetric external burning propulsion for bluff-base bodies. Gopal K. Mehta and Warren C. Strahle (AIAA J, SYN) 269
Artificially induced boundary-layer transition on blunt-slender cones at hypersonic speeds. A.H. Boudreau (JSR) 245
Boundary-layer transition experiments on sharp, slender cones in supersonic free flight. Daniel C. Reda (AIAA J) 803
Comment on "Hypersonic free molecular heating of micron size particulate." Nelson H. Kemp (AIAA J, RF) 445
--Reply by author to N.H. Kemp. Dennis R. Hall (AIAA J, RF) 446
Comment on "Wall shear stress measurements in a shock-wave boundary-layer interaction." Robert D. Kirchner (AIAA J, RF) 670
--Reply by authors to R.D. Kirchner. William C. Rose and V. Sreedhara Murthy (AIAA J, RF) 671
Comparison of aerodynamic data obtained by static and dynamic techniques. Kenneth F. Stetson and Frank M. Sawyer (AIAA J, TN) 103
Computation of the viscous supersonic flow over external axial corners. Paul Kutler, Thomas H. Pulliam, and Yvon C. Vigneron (AIAA J) 571
Computation of three-dimensional turbulent separated flows at supersonic speeds. C.C. Horstman and C.M. Hung (AIAA J, SYN) 1155
Computational scheme for calculating the plume backflow region. Basil P. Cooper, Jr. (JSR, EN) 284
Criteria for asymptotic supersonic two-dimensional turbulent waks. Michael J. Walsh (AIAA J, TN) 783
Design, tests, and verification of a diffuser system for a Mach 4 scramjet test facility. Earl H. Andrews Jr. and Ernest A. Mackley (JA, SYN) 641
Detailed study of attached and separated compression corner flowfields in high Reynolds number supersonic flow. Gary S. Settles, Thomas J. Fitzpatrick, and Seymour M. Bogdonoff (AIAA J) 579
Experimental study of flow near the trailing edge of a flat plate in rarefied gas. L. Gottesdiener (AIAA J) 1159
Geometric conservation law and its application to flow computations on moving grids. P.D. Thomas and C.K. Lombard (AIAA J) 1030
Heat- and mass-transfer effects on three-dimensional hypersonic viscous shock-layer flows. A.L. Murray and Clark H. Lewis (PS, V.64) 165
High-altitude long-range sonic boom propagation. A.R. George and Y.N. Kim (JA, EN) 637
Hypersonic aerothermoelastic characteristics of a finned missile. L.E. Ericsson, B.O. Almroth, and J.A. Bailie (JSR) 187
Hypersonic viscous flows over sphere cones at high angles of attack. John D. Waskiewicz and Clark H. Lewis (AIAA J, SYN) 131
Improved wave drag predictions using modified linear theory. Robert T. Stancil (JA) 41
Influence of the physical model on the vibration relaxation in expansion flows. J.G. Meolans, C. Nicoli, and R. Brun (AIAA J, TN) 1260
Laminar and turbulent flows over a spherically blunted cone with massive surface blowing. Ajay Kumar, R.A. Graves Jr., and S.N. Tiwari (AIAA J) 1326
Laminar film cooling experiments in hypersonic flow. B.E. Richards and J.L. Stollery (JA) 177
Measurements of transition-front asymmetries on ablating graphite nosetips in hypersonic flight. Daniel C. Reda and Richard M. Raper (AIAA J) 1201
Measuring flow angle and mass flow rate in an unknown flowfield. Vernon T. Helms III (JSR) 20
Nonlinear hypersonic viscous crossflow effects on slender vehicle dynamics. Lars E. Ericsson (AIAA J) 586
Numerical procedure for the computation of irrotational conical flows. B. Grossman (AIAA J) 828
Numerical solution of the supersonic and hypersonic viscous flow around thin delta wings. Guion S. Bluford Jr. (AIAA J) 942
Numerical solution of two-dimensional turbulent blunt body flows with an impinging shock. J.C. Tannehill, Yvon C. Vigneron, and John V. Rakich (AIAA J, SYN) 1289
Numerical solutions of hypersonic viscous shock-layer equations. B.N. Srivastava, M.J. Werle, and R.T. Davis (AIAA J, TN) 107
Numerical technique for the triple-deck problem. M. Napolitano, M.J. Werle, and R.T. Davis (AIAA J) 699
Ramjet enging testing and simulation techniques. L.C. Dunsworth and G.J. Reed (JSR) 382
Real flow limitations supersonic airplane design. Robert M. Kulfan and Armand Sigalla (JA,SP) 645
Real gas laminar boundary-layer separation prediction methodology. Hideo Ikawa (AIAA J, SYN) 1157
Rebuttal to reply by author to "Comment of 'Flutter of flat finite element panels in a supersonic potential flow'." William P. Rodden (AIAA J, RF) 446
--Reply by author to rebuttal by W.P. Rodden. T.Y. Yang (AIAA J, RF) 448
Remarks on dusty hypersonic wedge flow. Ronald M. Barron and J. Thomas Wiley (AIAA J, TN) 317
Reynolds number effects on the turbulence field in compressible boundary layers. M. Acharya, C.C. Horstman, and M.I. Kussoy (AIAA J) 380
Structure of the conical flowfield about external axial corners. Manuel D. Salas and James Daywitt (AIAA J) 41
Supersonic flow over a deep cavity for a laser application. Peter Shen (AIAA J, TN) 216
Surface roughness effects on a Mach 6 turbulent boundary layer. D.E. Berg (AIAA J, SYN) 929
System identification technology for estimating re-entry vehicle aerodynamic coefficients. Narendra K. Gupta and W. Earl Hall Jr. (JGC) 139
Three-dimensional supersonic interacting turbulent flow along a corner. J.S. Shang, W.L. Hankey, and J.S. Petty (AIAA J) 706
Time-variant aerodynamics of oscillating airfoil surfaces in a supersonic flowfield. Sanford Fleeter and Ronald E. Riffel (AIAA J) 465
Transport physics and mathematical characteristics. Gustave Hokenson (AIAA J, TN) 781
Turbulent shear stresses in compressible boundary layers. A.J. Laderman and Anthony Demetriades (AIAA J) 736
Two-dimensional supersonic jet impingement on a flat plate. T.-F. Zien, K.-Y. Chien, and R.T. Driftmyer (AIAA J, SYN) 4

Transonic Flow

Aircraft wake flow effect and horizontal tail buffet. Chintsun Hwang and W.S. Pi (JA, EN) 282
Application of the finite-element method to transonic flows with shocks. Aspi Rustom Wadia (AIAA J, TN) 1141
Artificial compressibility methods for numerical solutions of transonic full potential equation. M. Hafez, J. South, and E. Murman (AIAA J) 838
Axisymmetric transonic turbulent base pressures. J.S.K. Liu and W.L. Chow (AIAA J, SYN) 330
Derivation of an integral equation for three-dimensional transonic flows. Wandera Ogana (AIAA J, TN) 305
Effect of frequency in unsteady transonic flow. Donald P. Rizzetta and Wilson C. Chin (AIAA J, TN) 779
Experimental investigation of support interference on an ogive cylinder at high incidence. W.E. Dietz Jr. and M.C. Altstatt(JSR, SYN) 67
Fast, conservative schemes for the full potential equation applied to transonic flows. Terry L. Holst and William F. Ballhaus (AIAA J) 145
Finite-element approach to compressor blade-to-blade cascade analysis. Wagdi G. Habashi, Ernest G. Dueck, and David P. Kenny (AIAA J) 693
Flat plate turbulent boundary layers subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 105
Implicit algorithm for the conservative transonic full-potential equation using an arbitrary mesh. Terry L. Holst (AIAA J) 1038
Induction driven tunnel at ONERA-CERT. Roger Michel, André Mignosi, and Claude Quemard (JA) 134
Integration time required to extract accurate data from transonic wind-tunnel tests. Lado Muhlstein Jr. and Charles F. Coe (JA) 620
Leading-edge singularity in transonic small-disturbance theory: numerical resolution. Barbara L. Keyfitz, Robert E. Melnik, and Bernard Grossman (AIAA J, TN) 296
Lifting-line theory of oblique wings in transonic flows. H.K. Cheng and S.Y. Meng (AIAA J, TN) 121

Linearization of unsteady transonic flows containing shocks. M.H. Williams (AIAA J) 394
Location and magnitude of cascade shock loss by high-speed smoke visualization. William B. Roberts and John A. Slovisky (AIAA J, TN) 1270
Mass injection and jet flow simulation effects on transonic afterbody drag. Wladimiro Calarese and Ronald E. Walterick (JA) 433
New approach to the 3-D transonic flow analysis using the STAR-100 computer. David D. Redhed, Allen W. Chen, and Steven G. Hotovy (AIAA J, TN) 98
New method for designing shock-free transonic configurations. H. Sobieczky, N.J. Yu, K-Y. Fung, and A.R. Seebass (AIAA J) 722
Numerical calculation of transonic potential flow about wing-body combinations. D.A. Caughey and Antony Jameson (AIAA J) 175
On the transonic-dip mechanism of flutter of a sweptback wing. Koji Isogai (AIAA J, TN) 793
On unsteady transonic shock motions. David Nixon (AIAA J, TN) 1143
Overexpanded two-dimensional transonic free jet. R.D. Small (AIAA J, TN) 307
Prediction of critical Mach number for store configurations. James W. Purvis and John E. Burkhalter (AIAA J) 1170
Pseudo-unsteady method for the computation of transonic potential flows. J.P. Veuillot and H. Viviand (AIAA J, SYN) 691
Ramjet engine testing and simulation techniques. L.C. Dunsworth and G.J. Reed (JSR) 382
Second-order-accurate calculation of transonic flow over turbomachinery cascades. David C. Ives and John F. Liuttermoza (AIAA J) 870
Shock structure in transonic compressor rotors. A.H. Epstein, J.L. Kerrebrock, and W.T. Thompkins Jr. (AIAA J) 375
Shock tube as a device for testing transonic airfoils at high Reynolds numbers. William J. Cook, Leroy L. Presley, and Gary T. Chapman (AIAA J) 714
Shock-wave oscillations in a transonic diffuser flow. C.P. Chen, M. Sajben, and J.C. Kroutil (AIAA J) 1076
Singularity at the trailing edge of a swept wing. Gordon J. Clapworthy (AIAA J, TN) 313
Some exact solutions to Guderley's equation. Wilson C. Chin (AIAA J, TN) 438
Some observations on the mechanism of aircraft wing rock. Chintsun Hwang and W.S. Pi (JA)366
Structure of the conical flowfield about external axial corners. Manuel D. Salas and James Daywitt (AIAA J) 41
Supercritical airfoil technology in compressor cascades: comparison of theoretical and experimental results. H.E. Stephens (AIAA J) 594
Time-dependent response of a two-dimensional airfoil in transonic flow. D.P. Rizzetta (AIAA J) 26
Transonic flows past nonaxisymmetric slender shapes—classical equivalence rule analysis. Stephen S. Stahara and John R. Spreiter (AIAA J) 245
Transonic shock/boundary-layer interaction subject to large pressure fluctuations. S. Raghunathan, J.B. Coll, and D.G. Mabey (AIAA J, TN) 1404
Transonic shock-boundary-layer interactions in cryogenic wind tunnels. G.R. Inger (JA, EN) 284
Wind-tunnel blockage correction for two-dimensional transonic flow. James A. Blackwell Jr. (JA) 256

Viscous Nonboundary-Layer Flows

Aerodynamics characteristics of an unsteady separated flow. M.S. Francis, J.E. Keesee, J.D. Lang, G.W. Sparks Jr., and G.E. Sisson (AIAA J) 1332
Characteristics of the split film sensor. Colin J. Apelt (AIAA J, TN) 101
Computation of the viscous supersonic flow over external axial corners. Paul Kutler, Thomas H. Pulliam, and Yvon C. Vigneron (AIAA J) 571
Development of an afterbody radiative and convective heating code for outer planet probes. D.N. Brant and D.E. Nestler (PS, V.64) 345
Direct testing of subgrid-scale models. O.J. McMillan and J.H. Ferziger (AIAA J) 1340
Downstream mixing gasdynamic—a numerical solution. K.N. Parthasarathy, J.D. Anderson Jr., and E. Jones (AIAA J) 1208
Effects of nonconstant enthalpy addition on fan-nozzle combinations. Gordon C. Oates and Walter M. Presz Jr. (JA, EN) 891
Flight instability produced by a rapidly spinning, highly viscous liquid. W.P. D'Amico and M.C. Miller (JSR, EN) 62
Flying-hot-wire study of flow past an NACA 4412 airfoil at maximum lift. Donald Coles and Alan J. Wadcock (AIAA J) 321
Geometric conservation law and its application to flow computations on moving grids. P.D. Thomas and C.K. Lombard (AIAA J) 1030
Hypersonic viscous flows over sphere cones at high angles of attack. John D. Waskiewicz and Clark H. Lewis (AIAA J, SYN) 131
Laminar and turbulent flows over a spherically blunted cone with massive surface blowing. Ajay Kumar, R.A. Graves Jr., and S.N. Tiwari (AIAA J) 1326
Laser-induced I_2 fluorescence measurements in a chemical laser flowfield. N.L. Rapagnani and S.J. Davis (AIAA J, TN) 1402
Measurements of flowfield properties in a gasdynamic laser nozzle wake. C.W. Peterson (AIAA J) 854
Numerical solutions of hypersonic viscous shock-layer equations. B.N. Srivastava, M.J. Werle, and R. T. Davis (AIAA J, TN) 107
Settling times of pressure measurements through capillary tubes. Junzo Sato (AIAA J) 1061
Sound production due to large-scale coherent structures. Thomas B. Gatski (AIAA J) 614
Subsonic base pressure fluctuations. R.A. Merz (AIAA J, TN) 436
Use of primitive variables in the solution of incompressible Navier-Stokes equations. K.N. Ghia, W.L. Hankey Jr., and J.K. Hodge (AIAA J, TN) 298
Vapor flow calculations in a flat-plate heat pipe. H. van Ooijen and C.J. Hoogendoorn (AIAA J) 1251

Wave Motion and Sloshing

Kinematic wave approach to hydraulic jumps with waves. Wilson C. Chin (JH) 120

INTERDISCIPLINARY TOPICS

Aerospace Technology Utilization

Automated guidance and control of longwall mining machines. E.R. Palowitch and P.H. Broussard Jr. (JE) 329
Current and potential uses of aerospace technology by the U.S. Department of the Interior. Gene A. Thorley and Charles J. Robinove (PS, V.67) 15
Experimental demonstration of the diffuser-augmented wind turbine concept. Barry L. Gilbert and Kenneth M. Foreman (JE) 235
Mars gravity field derived from Viking-1 and Viking-2: the navigation result. Edward J. Christensen and Bobby G. Williams (JGC) 179
Workshop report for the 4th AIAA Aeroacoustics Conference. Craig D. Simcox (JA) 35

Analytical and Numerical Methods

Analysis of Jupiter probe heat-shield recession uncertainties. H.F. Nelson and S.A. Mezines (PS, V.64) 293
Automated ship routing. A.J. Klapp (JH) 5
Bounds on the solution to a universal Kepler's equation. John E. Prussing (JGC, EN) 440
Comparison of classical analytic theories for the motion of artifical satellites. R.A. Gordon, G.D. Mistretta, and J.S. Watson (JGC) 184
Contamination design analysis approach for Spacelab. L.E. Bareiss (JSR) 394
Distributed control of spinning flexible spacecraft. L. Meirovitch, H.F. VanLandingham, and H. Öz (JGC) 407
Efficient algorithm for numerical airfoil optimization. Garret N. Vanderplaats (JA) 842
Energy effectiveness of arbitrary arrays of wind turbines. P.B.S. Lissaman (JE) 323
Extension of Gauss' method for the solution of Kepler's equation. Richard H. Battin and Thomas J. Fill (JGC) 190
General expression for a three-angle rotation matrix. James M. Wilkes (JGC, EN) 156
Geometric analysis of Rosette® exit cones. N.J. Pagano and P.W. Hsu (JSR) 311
Linearization of the boundary-layer equations of the minimum time-to-climb problem. Mark D. Ardema (JGC, EN) 434
Mars gravity field derived from Viking-1 and Viking-2: the navigation result. Edward J. Christensen and Bobby G. Williams (JGC) 179
Mathematical modeling of recoilless rifle interior ballistics. Aivars K. Celmins (PS, V.66) 113
Method for designing approximate optimal controllers for nonlinear systems. James W. Austin and Cornelius T. Leondes (JGC, EN) 347
Method for error budgeting of inertial navigation systems. Angus Andrews (JGC, EN) 438
Methods of design sensitivity analysis in structural optimization. Jasbir S. Arora and Edward J. Haug (AIAA J) 970
Minimum and maximum endurance trajectories for gliding flight in a horizontal plane. Walton E. Williamson Jr. (JGC) 457
Multistep guaranteed cost control of linear systems with uncertain parameters. Aharon Vinkler and Lincoln J. Wood (JGC) 449
Nonlinear transient analysis via energy minimization. Manohar P. Kamat and Norman F. Knight Jr. (AIAA J, SYN) 968
Numerical derivatives for parameter optimization. David G. Hull and Walton E. Williamson (JGC, EN) 158
Optimum design of wind tunnel contractions. M.N. Mikhail (AIAA J) 471
Orientation studies for single-axis concentrating collectors. Sheldon Jeter, J.I. Craig, and E.G. Grems (JE) 151

Orientation vector differential equation. Gregory J. Nazaroff (JGC, EN) 351
Penalty function solution of steady-state Navier-Stokes equations. Juan C. Heinrich and Robert S. Marshall (AIAA J, TN) 789
Periodic heat transfer in radiating and convecting fins or fin arrays. Ralph G. Eslinger and Benjamin T.F. Chung (AIAA J) 1134
Relative motion of particles in coplanar elliptic orbits. Terry Berreen and George Sved (JGC, EN) 443
Relative quaternion state transition relation. Ronald A. Mayo (JGC) 44
Shaping filters for disturbances with random starting times. Robert J. Fitzgerald (JGC, EN) 152
Simplified unsteady aerodynamic concepts with application to parameter estimation. William R. Wells and M.J. Queijo (JA) 90
Some formal effects of nonlinearities in optimal perturbation control. Warren W. Willman (JGC, SYN) 99
Streamlike function: a new concept in flow problems formulation. A. Hamed and S. Abdallah (JA, SYN) 801
Theory of high-muzzle-velocity guns. Arnold E. Seigel (PS, V.66) 135
Thermal resistance at smooth-sphere/rough-flat contacts: theoretical analysis. S.S. Burde and M.M. Yovanovich (PS, V.65) 83
Thermal resistance due to arbitrary dirichlet contacts on a half-space. G.E. Schneider (PS, V.65) 103
Three-dimensional effects of electrode configuration on diagonal MHD generator performance. Takehisa Hara and Juro Umoto (JE) 16
Tire runway interface friction prediction model concept. Mahinder K. Wahi (JA) 407
Vibration statistics of thin plates with complex form. Aleksander Waberski (AIAA J, ERR) 544

Atmospheric and Space Sciences

Applications of wind tunnels to investigation of wind-engineering problems. J.E. Cermak (AIAA J, SP) 679
Artificially thickening a smooth-wall turbulent boundary layer. Phillip M. Ligrani and Robert J. Moffat (AIAA J, TN) 907
Atmospheric limitations on antenna pointing performance. P.K. Lee (JSR) 115
C/STOL flight in wind disturbed by the presence of buildings. Walter Frost, Ravi Reddy, Bill Crosby, and Dennis W. Camp (JA) 856
Earth radiation budget experiment and smart sensors. George R. Young and James F. Kibler (PS, V.67) 74
Estimating aircraft true airspeed using temperatures from two different probes. Cleon J. Biter and James L. Anderson (JA, EN) 893
Flight through thunderstorm outflows. Walter Frost, Bill Crosby, and Dennis W. Camp (JA) 749
Higher-order differential equations of radiative transfer: P_3 approximation. Yildiz Bayazitoglu and James Higenyi (AIAA J) 424
Integrated detector array prepocessing for infrared astronomical applications. C.R. McCreight and H. Lum (PS, V.67) 455
Mars gravity field derived from Viking-1 and Viking-2: the navigation result. Edward J. Christensen and Bobby G. Williams (JGC) 179
MPD thruster test on the space shuttle. Kyoichi Kuriki (JSR) 326
Optical motion control applied to the Atmospheric Cloud Physics Laboratory (ACPL). L.R. Eaton and S.L. Neste (AIAA J) 261
Two-dimensional mathematical model of a nonbuoyant jet in a crossflow. Milorad Lj. Bojić and S. Eskinazi (AIAA J) 1050
Zero-pressure balloon design. David L. Keese (AIAA J) 12

Computer Communications, Information Processing and Software

Application of smart sensor techniques to a solid-state array multispectral sensor. Louis W. McFadin (PS, V.67) 469
Application of square-root filtering for spacecraft attitude control. J.A. Sorenson, S.F. Schmidt, and T. Goka (JGC) 426
Distributed microcomputer telemetry system for spacecraft applications. Donald D. Lord (PS, V.67) 255
Earth radiation budget experiment and smart sensors. George R. Young and James F. Kibler (PS, V.67) 74
Impact of advanced onboard processing concepts on end-to-end data systems. J.Y. Sos (PS, V.67) 184
Information adaptive system of NEEDS. William M. Howle Jr. and W. Lane Kelly IV (PS, V.67) 213
Integrated optical preprocessor for multichannel analog data. C.M. Verber (PS, V.67) 367
Onboard data processing for the IRAS telescope system. H. Lum, P. Neal, D. Wong, and E. Long (PS, V.67) 265
Pattern classification using charge transfer devices. W.E. Snyder, J.H. Reece, and H.F. Benz (PS, V.67) 315
Role of "smart" sensors in Earth resources remote sensing programs. Lawrence P. Murphy and John W. Jarman (PS, V.67) 101
"Smart" from a NEEDS perspective. David L. Blanchard (PS, V.67) 166
"Smart" remote holographic processor based on the materials characteristics of $LiNbO_3$. D.W. Vahey (PS, V.67) 352
Smart sensors for smart hands. Antal K. Bejczy (PS, V.67) 275
Smart sensors in spacecraft: impact and trends. Roger A. Breckenridge and Charles Husson (PS, V.67) 3
Survey of the utlitarian aspects of advanced flowfield diagnostic techniques. Carl W. Peterson (AIAA J, SP) 1352

Computer Technology

Application of smart sensor techniques to a solid-state array multispectral sensor. Louis W. McFadin (PS, V.67) 469
Automated ship routing. A.J. Klapp (JH) 5
Computational aerodynamics development and outlook. Dean R. Chapman (AIAA J, Dryden Lectureship in Research) 1293
Computer-controlled video instrument for wind-tunnel testing of lifting parachutes. Robert H. Croll and Carl W. Peterson (JA) 269
Contamination design analysis approach for Spacelab. L.E. Bareiss (JSR) 394
Cost-effective use of minicomputers to solve structural problems. Olaf O. Storaasli and Edwin P. Foster. (JA) 775
Information adaptive system for NEEDS. William M. Howle Jr. and W. Lane Kelly IV (PS, V.67) 213
Modular onboard adaptive imaging. R. Eskenazi and D.S. Williams (PS, V.67) 305
NASA end-to-end data system program. Robert D. Price (PS, V.67) 155
Pattern classification using charge transfer devices. W.E. Snyder, J.H. Reece, and H.F. Benz (PS, V.67) 315

Human Factors

Effects of helmet loader cues on simulator pilot performance. B.R. Ashworth and B.T. McKissick (JA) 787
Smart sensors for smart hands. Antal K. Bejczy (PS, V.67) 275

Lasers

Acoustic suppression in a pulsed chemical laser. Darrell R. Ausherman, Irwin E. Alber, and Eric Baum (AIAA J) 490
Convective heat flux in a laser-heated thruster. Peter K.S. Wu (JSR, EN) 56
Degradation of a laser beam by a two-dimensional turbulent jet. G.F. Cudahy, J.T. Van Kuren, and H.E. Wright (AIAA J) 1091
Downstream mixing gasdynamic lasers—a numerical solution. K.N. Parthasarathy, J.D. Anderson Jr., and E. Jones (AIAA J) 1208
Flowfield diagnostics. S. Lederman, A. Celentano, and J. Glaser (AIAA J) 1106
Full-scale wake flow measurements with a mobile Laser Doppler Velocimeter. D.J. Wilson, A.D. Zalay, M.R. Brashears, C.E. Craven, K.R. Shrider, and A.J. Jordan (JA) 155
High-power laser coupling. R.B. Hall, W.E. Maher, D.B. Nichols, and D.J. Nelson (PS, V.65) 179
Improved free-vortex, subsonic aerodynamic window. Joel M. Avidor (AIAA J, TN) 1267
Inhomogeneous broadening effects in cw chemical lasers. Harold Mirels (AIAA J) 478
Investigation of turbulent boundary-layer separation using laser velocimetry. D. Modarress and D.A. Johnson (AIAA J) 747
Laser-induced I_2 fluorescence measurements in a chemical laser flowfield. N.L. Rapagnani and S.J. Davis (AIAA J, TN) 1402
Laser Raman studies of solid oxidizer behavior. T.B. Brill and F. Goetz (PS, V.63) 3
Mathematical modeling of fish detection with a scanning airborne laser. David L. Murphree, Ronald W. McClendon, Bradley W. Ward, and Fred Glaum (AIAA J, SYN) 745
Measurements of flowfield properties in a gasdynamic laser nozzle wake. C.W. Peterson (AIAA J) 854
Measured wake-vortex characteristics of aircraft in ground effect. Donald L. Ciffone and Barbara Pedley (JA) 102
Modeling of momentum transfer to a surface by laser-supported absorption waves. J.P. Reilly, A. Ballantyne, and J.A. Woodroffe (AIAA J) 1098
Optically pumped carbon dioxide laser mixtures. Oktay Yesil and Walter H. Christiansen (JE) 315
Performance potential of advanced GDL concepts. P.E. Cassady, A.L. Pindroh, and J.F. Newton (AIAA J) 845
Response of heat-shield materials to intense laser radiation. J.H. Lundell and R.R. Dickey (PS, V.64) 193
Survey of the utilitarian aspects of advanced flowfield diagnostic techniques. Carl W. Peterson (AIAA J, SP) 1352
Theoretical modeling of rapid surface vaporization with back pressure. Charles J. Knight (AIAA J) 519

Law, History, Policy, and Sociology

First steps into space, 1946-1978. Ernst Stuhlinger (JSR, Historical Survey Lecture) 3

Reliability, Maintainability, and Logistics Support

Decision theory model for health monitoring of aeroengines. V.V.S. Sarma, K.V. Kunhikrishnan, and K. Ramchand (JA, EN) 222
Dual-sensor failure identification using analytic redundancy. Mukund N. Desai, James C. Deckert, and John J. Deyst Jr. (JGC) 213
Fault detection threshold determination technique using Markov theory. Bruce K. Walker and Eliezer Gai (JGC) 313
Probability of solid-propellant motor failure due to environmental temperatures. R.A. Heller, M.P. Kamat, and M.P. Singh (JSR) 140

Repair concepts for advanced composite structures. S.H. Myhre and C.E. Beck (JA) 720
Reusable solid rocket motor case: optimum probabilistic fracture control. S. Hanagud and B. Uppaluri (JSR) 147

Research Facilities and Instrumentation

Applications of wind tunnels to investigation of wind-engineering problems. J.E. Cermak (AIAA J, SP) 679
Axisymmetric calculations of transonic wind tunnel interference in slotted test sections. K.R. Karlsson and Y.C.-J. Sedin (AIAA J, TN) 917
Cinephotomicrography and scanning electron microscopy as used to study solid propellant combustion. T.L. Boggs, J.E. Crump, K.J. Kraeutle, and D.E. Zurn (PS, V.63) 20
Closed bomb technique for burning rate measurement at high pressure. Arpad A. Juhasz and Channon F. Price (PS,V.63) 129
Comparison of aerodynamic data obtained by static and dynamic techniques. Kenneth F. Stetson and Frank M. Sawyer (AIAA J, TN) 103
Continuous regression rate measurement in hybrid rockets. R. Monti and M. Mazzola (PS, V.63) 111
Cost-effective method for measuring contamination effects. Chang-Keng Liu and A.P.M. Glassford (JSR) 402
Data acquisition and processing in a large aerodynamic test center. Michel M.G. Delattre (JA) 141
Definition of yaw meter sensitivity for the "null reading" technique. Adrian Millward (JH, EN) 130
Design, tests, and verification of a diffuser system for a Mach 4 scramjet test facility. Earl H. Andrews Jr. and Ernest A. Mackley (JA, SYN) 641
Development of electron beam welded, strain-gaged wind-tunnel balances. Bernd Ewald (JA) 349
Effects of helmet loader cues on simulator pilot performance. B.R. Ashworth and B.T. McKissick (JA) 787
Estimating aircraft true airspeed using temperatures from two different probes. Cleon J. Biter and James L. Anderson (JA, EN) 893
Experimental methods for combustion admittance measurements. R.S. Brown, F.E. C. Culick, and B.T. Zinn (PS, V.63) 191
Flowfield diagnostics. S. Lederman, A. Celentano, and J. Glaser (AIAA J) 1106
Holography of solid propellant combustion. R.A. Briones and R.F. Wuerker (PS, V.63) 251
Integration time required to extract accurate data from transonic wind-tunnel tests. Lado Muhlstein Jr. and Charles F. Coe (JA) 620
Large signal-to-noise technique for unsteady pressure measurements. T.C. Corke and H.M. Nagib (AIAA J, TN) 114
Measurement of burning rates in transient combustion processes under the influence of external radiation. V.F. Mikheev, V.E. Zarko, S.M. Borin, K.P. Kutsenogii, and V.N. Simonenko (PS, V.63) 173
Methods of measurements in destructive fires. A. Murty Kanury (PS, V.63) 279
On-axis velocity component measurement with laser velocimeters. Sudhakar Neti and Wayne Clark (AIAA J, TN) 1013
Production and analysis of thermal decomposition products from polymeric materials. D.A. Chatfield, I.N. Einhorn, F.D. Hileman, J.H. Futrell, and K.J. Voorhees (PS, V.63) 49
Rayleigh scattering measurements of time-resolved concentration in a turbulent propane jet. T. Michal Dyer (AIAA J, TN) 912
Real-time optical measurement of time-dependent shock position. M. Sajben and R.C. Crites (AIAA J, TN) 910
Research test techniques applied to gun interior ballistics. E.B. Fisher (PS, V.66) 281
Schlieren studies of solid-propellant combustion. David W. Netzer and James R. Andrews (PS, V.63) 235
Survey of the utilitarian aspects of advanced flowfield diagnostic techniques. Carl W. Peterson (AIAA J, SP) 1352
Technique of vorticity measurement in unsteady flow. J.E. Keesee, M.S. Francis, and J.D. Lang (AIAA J) 387
Techniques for the experimental investigation of the near wake of a cyclinder. R. W. Wlezien and J.L. Way (AIAA J) 563
Use of cylindical hot films in unsteady flows. J.C. Bennett (AIAA J, TN) 215

Safety

Airborne detection of low-level wind shear. R.A. Greene (JA) 823
Laboratory fire testing of cabin materials used in commercial aircraft. C.P. Sarkos, J.C. Spurgeon, and E.B. Nicholas (JA) 78
New look at structural reliability and risk theory. Frederick H. Hooke (AIAA J) 980
Nonlinear transient analysis via energy minimization. Manohar P. Kamat and Norman F. Knight Jr. (AIAA J, SYN) 968

Satellite Communications Systems (including Terrestial Stations)

Atmospheric limitations on antenna pointing performance P.K. Lee (JSR) 115
The K_a-band communication systems of the Lincoln Experimental Satellites LES-8 and LES-9. F. John Solman, Carl D. Berglund, Richard W. Chick, and Brian J. Clifton (JSR) 181
Method of optimizing the update intervals in hybrid navigation systems. Cornelius T. Leondes, Ioannis A. Phillis, and Leonard Chin (JGC, EN) 541
Nuclear-powered communications satellite for the 1980's. Marshall H. Kaplan, David J. Cwynar, and Joseph Bednarz (JSR) 268
Sensor data autonomy. Edward P. Greene and Richard desJardins (PS, V.67) 246
Traveling between the Lagrange points and the moon. R. Broucke (JGC) 257

Sensor Systems

Advanced systems requirements for ocean observations via microwave radiometers. Hans-Juergen C. Blume, Calvin T. Swift, and Bruce M. Kendall (PS, V.67) 89
Application of smart sensor techniques to a solid-state array multispectral sensor. Louis W. McFadin (PS, V.67) 469
Characteristics of the split film sensor. Colin J. Apelt (AIAA J, TN) 101
Control technology challenges for gravitational physics experiments in space. Daniel B. DeBra (JGC) 147
Decision theory model for health monitoring of aeroengines. V.V.S. Sarma, K.V. Kunhikrishnan, and K. Ramchand (JA EN) 222
Dual-sensor failure identification using analytic redundancy. Mukund N. Desai, James C. Deckert, and John J. Deyst Jr. (JGC) 213
Earth radiation budget experiment and smart sensors. George R. Young and James F. Kibler (PS, V.67) 74
Effects of relative instrument orientation upon gravity gradiometer system performance. Eugene J. Pelka and Daniel B. DeBra (JGC) 18
End-to-end design concept. P.A. Castruccio (PS, V.67) 221
Fault detection threshold determination technique using Markov theory. Bruce K. Walker and Eliezer Gai (JGC) 313
Generalized likelihood test for FDI in redundant sensor configurations. Kevin C.Daly, Eliezer Gai, and James V. Harrison. (JGC) 9
HgCdTe charge-coupled devices. R.A. Chapman, M.A. Kinch, S.R. Borrello, A. Simmons, C.G. Roberts, and D.D. Buss (PS, V.67) 424
High-speed gallium arsenide integrated circuit development for satellite systems. D.H. Phillips and H.L. Petersen (PS, V.67) 391
Image feature analysis using DEFT sensors. S.T. Kowel, P.G. Kornreich, A. Mahapatra, M. Mehter, and T. Szebenyi (PS, V.67) 380
Indium antimonide infrared CCD linear imaging arrays with on-chip preprocessing. R.D. Thom, T.L. Koch, and W.J. Parrish (PS, V.67) 411
Information adaptive system of NEEDS. William M. Howle Jr. and W. Lane Kelly IV (PS, V.67) 213
Integrated detector array preprocessing for infrared astronomical applications. C.R. McCreight and H. Lum (PS, V.67) 455
Integrated optical preprocessor for multichannel analog data. C.M. Verber (PS, V.67) 367
Interferometric attitude determination with the global positioning system. J.F. Ellis and G.A. Creswell (JGC) 522
Landmark identification and tracking experiments. R.T. Schappell and J.C. Tietz (PS, V.67) 134
Modular onboard adaptive imaging. R. Eskenazi and D.S. Williams (PS, V.67) 305
Monolithic saw-charge transfer device. N.A. Papanicolaou and H.C. Lin (PS, V.67) 325
Multispectral data acquisition and classification: statistical models for system design. Friedrich O. Huck and Stephen K. Park (PS, V.67) 490
Onboard compensation for temporal changes in pushbroom scanner detector arrays. Daniel J. Jobson (PS, V.67) 481
Onboard data processing for the IRAS telescope system. H. Lum, P. Neal, D. Wong, and E. Long (PS, V.67) 265
Pattern classification using charge transfer devices. W.E. Snyder, J.H. Reece, and H.F. Benz (PS, V.67) 315
Performance of a ring leader laser strapdown attitude and heading reference for aircraft. Carlo San Giovanni Jr. (JGC) 320
Real-time determination of geophysical parameters from a multibeam altimeter. J.T. McGoogan and E.J. Walsh (PS, V.67) 110
Role of "smart" sensors in Earth resources remote sensing programs. Lawrence P. Murphy and John W. Jarman (PS, V.67) 101
Sensor needs for agricultural applications. Harvey Golden and James W. Neiers (PS, V.67) 27
"Smart" remote holographic processor based on the materials characteristics of $LiNbO_3$. D.W. Vahey (PS, V.67) 352
"Smart" remote sensor needs for U.S. Coast Guard ocean environment missions. Richard M. Hayes (PS, V.67) 44
Smart sensors for smart hands. Antal K. Bejczy (PS, V.67) 275
Smart sensors in spacecraft: impact and trends. Roger A. Breckenridge and Charles Husson (PS, V.67) 3
User's experience and technology transfer. Michael J. McCormick (PS, V.67) 63

Space Processing

Bubble behavior during solidification in low gravity. John M. Papazian, Robert Gutowski, and William R. Wilcox (AIAA J) 1111
Comment on "SPS cost considerations." George A. Hazelrigg Jr. (JE, TC) 125
--Reply by author to G. Hazelrigg. Gordon R. Woodcock (JE, TC) 126
Effect of internal heat transport on the thermal migration of bubbles. John M. Papazian and Robert L. Kosson (AIAA J, TN) 1279
Growth of HgI_2 single crystals in Spacelab III. W.F. Schnepple, L. van den Berg, and N. Skinner (JSR, EN) 441
Mutispectral data acquisition and classification: statistical models for system design. Friedrich O. Huck and Stephen K. Park (PS, V.67) 490
Optical motion control applied to the Atmospheric Cloud Physics Laboratory (ACPL). L.R. Eaton and S.L. Neste (AIAA J) 261
Role of "smart" sensors in Earth resources remote sensing programs. Lawrence P. Murphy and John W. Jarman (PS, V.67) 101
Space-manufactured satellite power systems. R.H. Miller and D.L. Akin (JE, TN) 373

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

LV/M Aerodynamic Heating and Ablation

Aerothermodynamic assessment of corrugated panel thermal protection systems. Harold J. Brandon, Allen H. Britt, and James C. Dunavant (PS, V.64) 193
Response of heat-shield materials to intense laser radiation. J.H. Lundell and R.R. Dickey (PS, V.64) 193
Shock-tube investigation of heat transfer in the base region of a slender cone-hemisphere. B.S.C. Kim (PS, V.64) 278

LV/M Aerodynamics

Aerodynamics of slender bodies at high angles of attack. C.E.G. Przirembel and Donald E. Shereda (JSR) 10
Experimental investigation of support interference on an ogive cylinder at high incidence. W.E. Dietz Jr. and M.C. Altstatt (JSR, SYN) 67
In-flight measurements of the vibration history of spin-stabilized projectiles. W.P. D'Amico (JSR, EN) 444
System identification technology for estimating re-entry vehicle aerodynamic coefficients. Narendra K. Gupta and W. Earl Hall Jr. (JGC) 139
Wake vortex measurements of an ogive cylinder at α 36 degrees. F.K. Owen and D.A. Johnson (JA) 577

LV/M Configurational Design

Experimental determination of the artillery shell mass-property/trajectory-drift relationship. L.R. Rollstin (JSR) 108
Minimum-ballistic-factor flat-nosed missiles. V.B. Tawakley (JSR, EN) 280
Prediction of roll controllability of slender cruciform canard configurations. I. Gur, J. Shinar, and J. Rom (JSR) 238

LV/M Dynamics and Control

Angular motion of spinning almost-symmetric missiles. Charles H. Murphy (JGC) 504
Atmospheric flight of a variable-bend body. William J. Larkin and Mitchell Thomas (JGC) 382
Copperhead semiactive laser guidance system development. Robert A. Nulk, Harold L. Pastrick, and Phillip A. Morrison (JGC) 374
Experimental evaluation of artillery projectile impact errors induced by principal-axis misalignment. Larry R. Rollstin and Albert E. Hodapp Jr. (JSR) 316
Hysteresis zone or locus—aerodynamics of bulbous based bodies at low speeds. Eugene E. Covert (AIAA J, TN) 659
Instability of spinning projectiles during terminal guidance. K.H. Lloyd and D.P. Brown (JGC) 65
Missile guidance for low-altitude air defense. F. William Nesline (JGC) 283
Modular, spin-stabilized, tandem solid rocket upper stage. G. Porcelli and E. Vogel (JSR) 338
Optimal thrust for maximal rocket turn. R. Hermesh, S. Katzir, and E. Kreindler (JGC) 301
Prediction of roll controllability of slender cruciform canard configurations. I. Gur, J. Shinar, and J. Rom (JSR) 238
Re-entry vehicle dispersion from entry angular misalignment. D.H. Platus (JGC) 276
Unique nozzle cover for the shuttle booster separation motors. J. Ray Dettling and Stan McIntyre (JSR) 361
Valve delay effects on bending limit cycles of a deadband system. Franklin C. Loesch (JGC, EN) 436
Velocity required for intercept with perturbations. Bruce D. White (JGC, EN) 94

LV/M Guidance

Concept to enhance strapdown navigation on MaRV's. Thomas J. Duffy (JGC, EN) 542
Copperhead semiactive laser guidance system development. Robert A. Nulk, Harold L. Pastrick, and Phillip A. Morrison (JGC) 374
Method for designing approximate optimal controllers for nonlinear systems. James W. Austin and Cornelius T. Leonde (JGC, EN) 347
Missile guidance for low-altitude air defense. F. William Nesline (JGC) 283
Vector methods in homing guidance. Malcolm J. Abzug (JGC, EN) 253
Velocity required for intercept with perturbations. Bruce D. White (JGC, EN) 94

LV/M Mission Studies and Economics

Comment on "SPS cost considerations." George A. Hazelrigg Jr. (JE, TC) 125
--Reply by author to G. Hazelrigg. Gordon R. Woodcock (JE, TC) 126
Constrained impulsive trajectory optimization for orbit-to-orbit transfer. Richard G. Brusch (JGC) 204
Cost comparisons of dual-fuel propulsion in advanced shuttles. James A. Martin (JSR) 232
High performance dash-on-warning air mobile missile system. D.S. Hague and Alan D. Levin (JA) 551
Launch window for a shuttle-based geosynchronous orbit mission. W.H. Wright (JSR, EN) 439
Probability of crashing from Monte Carlo simulation. E.P. Cunningham (JSR, EN) 348
Stationkeeping at constant distance. Wayne A. Fey (JGC, EN) 90

LV/M Propulsion and Propellant Systems

Cost comparisons of dual-fuel propulsion in advanced shuttles. James A. Martin (JSR) 232
Coupled thermomechanical effects in high solids propellants. Tieh-Ying Lee (AIAA J, TN) 1015
Effects of propellant temperature gradients on thrust imbalance of the space shuttle. Richard H. Sforzini, Winfred A. Foster Jr., and Benjamin W. Shackelford Jr. (JSR) 135
Enthalpies of combustion of ramjet fuels. N.K. Smith and W.D. Good (AIAA J, TN) 905
High performance dash-on-warning air mobile missile system. D.S. Hague and Alan D. Levin (JA) 551
New law for crack propagation in solid propellant material. G. Langlois and R. Gonard (JSR) 357
New solid propellant for European apogee boost motor. R. Isopi (JSR, SYN) 355
Reusable insulation systems for cryogenic Earth-based space vehicles. Irving E. Sumner and James R. Barber (PS, V.65) 275
Solid rocket motor plume and ablation study. G.R. Moore, L.P. Anderson Jr., C.H. Lewis, and A.L. Murray (PS, V.64) 265

LV/M Simulation

General expression for a three-angle rotation matrix. James M. Wilkes (JGC, EN) 156
Probability of crashing from Monte Carlo simulation. E.P. Cunningham (JSR, EN) 348
Velocity required for intercept with perturbations. Bruce D. White (JGC, EN) 94

LV/M Structural Design (including Loads)

Estimation of payload loads using rigid-body interface accelerations. J.C. Chen, J.A. Garba, and B.K. Wada (JSR) 74
Geometric analysis of Rosette® exit cones. N.J. Pagano and P.W. Hsu (JSR) 311
Probability of solid-propellant motor failure due to environmental temperatures. R.A. Heller, M.P. Kamat, and M.P. Singh (JSR) 140
Reusable solid rocket motor case: optimum probabilistic fracture control. S. Hanagud and B. Uppaluri (JSR) 147
Voyager design and flight loads comparison. J.C. Chen, J.A. Garba, and F.D. Day III (JSR) 27

LV/M Testing, Flight and Ground

Flight vibration environments defined from Mk 12 booster static tests. N. Rubinstein and W.C. Caywood (JSR) 214
In-flight measurements of the vibration history of spin-stabilized projectiles. W.P. D'Amico (JSR, En) 444

LV/M Trajectories and Tracking Systems

Experimental determination of the artillery shell mass-property/trajectory-drift relationship. L.R. Rollstin (JSR) 108
Experimental evaluation of artillery projectile impact errors induced by principal-axis misalignment. Larry R. Rollstin and Albert E. Hodapp Jr. (JSR) 316
Flight instability produced by a rapidly spinning, highly viscous liquid. W.P. D'Amico and M.C. Miller (JSR), EN) 62
Optimal climb paths for a ballistic rocket within the atmosphere. Edward Large (JSR, EN) 282
Optimal thrust for maximal rocket turn. R. Hermesh, S. Katzir, and E. Kreindler (JGC) 301
Re-entry vehicle dispersion from entry angular misalignment. D.H. Platus (JGC) 276
Stationkeeping at constant distance. Wayne A. Fey (JGC, EN) 90

LV/M Vibration

Flight vibration environments defined from Mk 12 booster static tests. N. Rubinstein and W.C. Caywood (JSR) 214
Eigenrelations for general second-order systems. H.D. Nelson and D.A. Glasgow (AIAA J, TN) 795
In-flight measurements of the vibration history of spin-stabilized projectiles. W.P. D'Amico (JSR, EN) 444
Some results from 1/8-scale shuttle model vibration studies. Larry D. Pinson and Sumner A. Leadbetter (JSR) 48

Launch Vehicle Systems

Effect of demand on optimum launch vehicle size. R.H. Miller (JSR, EN) 287
Modular, spin-stabilized, tandem solid rocket upper stage. G. Porcelli and E. Vogel (JSR) 338
Solid rocket motor plume and ablation study. G.R. Moore, L.P. Anderson Jr., C.H. Lewis, and A.L. Murray (PS, V.64) 265
Unique nozzle cover for the shuttle booster separation motors. J. Ray Dettling and Stan McIntyre (JSR) 361

Missile Systems

Analysis of three-dimensional optimal evasion with linearized kinematics. J. Shinar, Y. Rotsztein, and E. Bezner (JGC) 353
Copperhead semiactive laser guidance system development. Robert A. Nulk, Harold L. Pastrick, and Phillip A. Morrison (JGC) 374
High performance dash-on-warning air mobile missile system. D.S. Hague and Alan D. Levin (JA) 551
Millimeter-wave missile seeker aimpoint wander phenomenon. D.T. Williams and W.H. Boykin Jr. (JGC) 196
Missile guidance for low-altitude air defense. F. William Nesline (JGC) 283
Performance potential and research needs of a hypersonic, air-breathing, lifting missile concept. J.L. Hunt, P.L. Lawing, D.C. Marcum, and J.M. Cubbage. (JA) 666

Sounding Rocket Systems

Optimal climb paths for a ballistic rocket within the atmosphere. Edward Large (JSR, EN) 282

MARINE TECHNOLOGY

Marine Hydrodynamics, Vessel and Control Surface

Interference effect of catamaran planing hulls. C.Y. Liu and C.T. Wang (JH, EN) 31
Numerical solution of a body-propeller combination flow including swirl and comparisons with data. Joseph A. Schetz and Stanley Favin (JH) 46
Powering prediction for surface effect ships based on model results. Robert A. Wilson, Steven M. Wells, and Charles E. Heber (JH) 113
Seakeeping quality of advanced marine vehicles for design applications. M.D. Ochi and D.D. Moran (JH) 85
Section design for hydrofoil wings with flaps. Young T. Shen and Richard Eppler (JH) 39
Simulation of maneuvering control during underway replenishment. Samuel H. Brown and Reidar Alvestad (JH, ERR) 68

Marine Instrumentation

Advanced oceanographic instrumentation systems and measurements at St. Croix, U.S.V.I. F.S. Billig, L.J. Crawford, and C.J. Gundersdorf (JH) 77
Mathematical modeling of fish detection with a scanning airborne laser. David L. Murphree, Ronald W. McClendon, Bradley W. Ward, and Fred Glaum (AIAA J, SYN) 745
Measurements of vertical profiles of oceanic current and Richardson number near St. Croix, U.S.V.I. D.C. Wenstrand (JH) 69

Marine Materials, Corrosion/Erosion

Application of hybrid composites to hydrofoil structures. L.B. Greszcuk, A.V. Hawley, and W. Couch (JH) 105

Marine Mooring Systems and Cable Mechanics

Effect of hydrostatic pressure on underwater towed body cable configurations. Theodore R. Goodman and Daniel T. Valentine (JH, EN) 131
Hydrodynamic analysis of a high-speed marine towed system. D.E. Calkins (JH) 10
Similarity in the modeling of cable twisting and looping. A.J. Shashaty (JH, EN) 133
Stability of faired underwater towing cables. S. Nair and G. Hegemier (JH) 20

Marine Propulsion

Flow about a propeller-driven body in temperature-stratified fluid. T.F. Swean Jr. and J.A. Schetz (AIAA J) 863
Simulation of maneuvering control during underway replenishment. Samuel H. Brown and Reidar Alvestad (JH, ERR) 68

Marine Vessel Design (including Loads)

Application of hybrid composites to hydrofoil structures. L.B. Greszcuk, A.V. Hawley, and W. Couch (JH) 105
Seakeeping quality of advanced marine vehicles for design applications. M.D. Ochi and D.D. Moran (JH) 85

Marine Vessel Systems, Submerged and Surface

Aircraft operating environments around high-speed ships. James F. Marchman III (JH, SYN) 3
Application of hybrid composites to hydrofoil structures. L.B. Greszcuk, A.V. Hawley, and W. Couch (JH) 105
Hydrodynamic analysis of a high-speed marine towed system. D.E. Calkins (JH) 10
The 260-ton French amphibious hovercraft—Naviplane N 500. P.F. Guienne (JH) 33

Marine Vessel Trajectories, Stability and Control

Simulation of maneuvering control during underway replenishment. Samuel H. Brown and Reidar Alvestad. (JH, ERR) 68

Oceanography, Physical and Biological

Advanced oceanographic instrumentation systems and measurements at St. Croix, U.S.V.I. F.S. Billig, L.J. Crawford, and C.J. Gundersdorf (JH) 77
Advanced systems requirements for ocean observations via microwave radiometers. Hans-Juergen C. Blume, Calvin T. Swift, and Bruce M. Kendall (PS, V.67) 89
Mathematical modeling of fish detection with a scanning airborne laser. David L. Murphree, Ronald W. McClendon, Bradley W. Ward, and Fred Glaum (AIAA J, SYN) 745
Measurements of vertical profiles of oceanic current and Richardson number near St. Croix, U.S.V.I. D.C. Wenstrand (JH) 69
"Smart" remote sensor needs for U.S. Coast Guard Ocean environment missions. Richard M. Hayes (PS, V.67) 44

Sea Pollution and Containment Control

Advanced systems requirements for ocean observations via microwave radiometers. Hans-Juergen C. Blume, Calvin T. Swift, and Bruce M. Kendall (PS, V.67) 89

PROPULSION

Airbreathing Propulsion

Accelerated mission testing of gas turbine engines. Jon S. Ogg and Wilson R. Taylor (JA) 247

Aerodynamic effects induced by a vectored high aspect ratio nonaxisymmetric exhaust nozzle. Douglas L. Bowers (JA) 515
Aeroelasiticity research for turbomachine applications. Sanford Fleeter (JA) 320
Analytical and experimental investigation of diffusers for VSTOL thrust-augmenting ejectors. M.R. Seiler and E.F. Schum (JA, SYN) 643
Axial compressor blade optimization in the low Reynolds number regime. William B. Roberts (AIAA J) 1361
Burning sprays of jet A fuel-water emulsions. H. Jahani and S.R. Gollahalli (JA, EN) 798
Characteristics of the near wake of a compressor of a fan rotor blade. B. Reynolds, B. Lakshminarayana, and A. Ravindranath (AIAA J) 959
Combustor concepts for aircraft gas turbine low-power emissions reduction. Edward J. Mularz, Clifford C. Gleason, and Willard J. Dodds (JE) 55
Design and experimental studies of a type A V/STOL inlet. H.C. Potonides, R.A. Cea, and T.F. Nelson (JA) 543
Design and verification of a turbofan swirl augmentor. William J. Egan Jr. and James H. Shadowen (JA) 599
Design, tests, and verification of a diffuser system for a Mach 4 scramjet test facility. Earl H. Andrews Jr. and Ernest A. Mackley (JA,SYN) 641
Effect of over-the-wing nacelles on wing-body aerodynamics. David E. Reubush (JA) 359
Effects of airframe-inlet integration on half-axisymmetric and two-dimensional supersonic inlet performance. Lewis E. Surber and Dennis Sedlock (JA) 612
Effects of axial and radial air injection on the near wake with and without external compression. D.H. Neale, J.E. Hubbartt, and W.C. Strahle (AIAA J, TN) 301
Effects of nonconstant enthalpy addition on fan-nozzle combinations. Gordon C. Oates and Walter M. Presz Jr. (JA, EN) 891
Enthalpies of combustion of ramjet fuels. N.K. Smith and W.D. Good (AIAA J, TN) 905
Flowfield modeling in practical combustors: a review. David G. Lilley (JE, SP) 193
Identification of a STOL propulsion plant model from flight data. Ronald L. DeHoff (JGC) 235
Inlet and duct for the QSRA boundary-layer control system. Daniel W. Gunnarson and Jack C. McArdle (JA) 303
Installed performance of vectoring/reversing nonaxisymmetric nozzles. P.E. Hiley, D.E. Kitzmiller, and C.M. Willard (JA) 532
Location and magnitude of cascade shock loss by high-speed smoke visualization. William B. Roberts and John A. Slovisky (AIAA J, TN) 1270
Measurements of unsteady parameters in reheat combustion instabilities. A.E. Smart, B. Jones, and N.T. Jewell (PS, V.63) 221
Modeling parameter influences in gas turbine combustor design. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 257
Numerical solution of combustor flowfields: a primitive variable design capability. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 95
Operational environment of Naval aircraft gas turbines. Scott M. Coté and James L. Byers (JA) 729
Procedure for optimizing the design of scramjet engines. P.J. Waltrup, F.S. Billig, and R.D. Stockbridge (JSR) 163
Ramjet engine testing and simulation techniques. L.C. Dunsworth and G.J. Reed (JSR) 382
Reverse thrust performance of a variable-pitch fan engine at forward velocity. D.C. Reemsnyder and D.A. Sagerser (JA) 848
Second-order-accurate calculation of transonic flow over turbomachinary cascades. David C. Ives and John F. Liutermoza (AIAA J) 870
Shock structure in transonic compressor rotors. A.H. Epstein, J.L. Kerrebrock, and W.T. Thompkins Jr. (AIAA J) 375
Similarities of turbulence structure in a conical diffuser with other wall-bounded flows. R.S. Azad and R.H. Hummel (AIAA J) 884
Static performance of vectoring/reversing nonaxisymmetric nozzles. C.M. Willard, F.J. Capone, M. Konarski, and H.L. Stevens (JA) 116
Streamlike function: a new concept in flow problems formulation. A. Hamed and S. Abdallah (JA, SYN) 801
Supercritical airfoil technology in compressor cascades: comparison of theoretical and experimental results. H.E. Stephens (AIAA J) 594
Technology status of jet noise suppression concepts for advanced supersonic transports. W.T. Rowe, E.S. Johnson, and R.A. McKinnon (JA) 95
Tilt nacelle aerodynamics and its application to fan blade stresses. R.J. Shaw, R.C. Williams, and J.L. Koncsek (JA) 591
Vectoring nonaxisymmetric nozzle jet induced effects on a V/STOL fighter model. W.C. Schnell and R.L. Grossman (JA) 863

Combustion and Combustor Designs

Applicability of relative quickness as a precision measure of muzzle velocity. Moshe BenReuven and Martin Summerfield (PS, V.66) 246
Ballistics applied to rapid-fire guns. Otto K. Heiney (PS, V.66) 87
Breakup of Al/Al_2O_3 agglomerates in accelerating flowfields. Leonard H. Caveny and Alon Gany (AIAA J) 1368
Cinephotomicrography and scanning electron microscopy as used to study solid propellant combustion. T. L. Boggs, J.E. Crump, K.J. Kraeutle, and D.E. Zurn (PS, V.63) 20
Characteristic time correlation for combustion inefficiency from alternative fuels. D.A. Schmidt and A.M. Mellor (JE) 167
Characteristic time correlations of pollutant emissions from an annular gas turbine combustor. A.M. Mellor and R.M. Washam (JE) 250
Chemically reacting, turbulent shear layer. R. Breidenthal (AIAA J, TN) 310
Closed bomb technique for burning rate measurement at high pressure. Arpad A. Juhasz and Channon F. Price (PS, V.63) 129
Combustion performance of gas turbine combustors burning alternative fuels. D.R. Ballal and A.H. Lefebvre (JE) 50
Combustor concepts for aircraft gas turbine low-power emissions reduction. Edward J. Mularz, Clifford C. Gleason, and Willard J. Dodds (JE) 55
Comment on "Pressure dependence of burning rate of composite solid propellants." Carl W. Nelson, George F. Adams, and J. Richard Ward (AIAA J, TC) 222
--Reply by authors to Nelson, Adams, and Ward. R.P. Rastogi, H.J. Singh, and A.K. Srivastava (AIAA J, TC) 223
Continuous regression rate measurement in hybrid rockets. R. Monti and M. Mazzola (PS, V.63) 111
Correlation technique for ambient effects on oxides of nitrogen. R.M. Washam and A.M. Mellor (JA) 626
Design and verification of a turbofan swirl augmentor. William J. Egan Jr. and James H. Shadowen (JA) 599
Development of a gas turbine combustor utilizing a catalyst. P. Flanagan, E.R. Norster, and R.V. Carrubba (JE) 75
Equations of state and thermodynamic data for interior ballistics calculations. E.G. Powell, G. Wilmot, L. Haar, and M. Klein (PS, V.66) 325
Erosive burning of composite solid propellants: experimental and modeling studies. Merrill K. King (JSR) 154
Experimental methods for combustion admittance measurements. R.S. Brown, F.E.C. Culick, and B.T. Zinn (PS. V.63) 191
Flowfield diagnostics. S. Lederman, A. Celentano, and J. Glaser (AIAA J) 1106
Flowfield modeling in practical combustors: a review. David G. Lilley (JE, SP) 193
Gun propellants. Ludwig Stiefel (PS, V.66) 307
High-order differential equations of radiative transfer: P_3 approximation. Yildiz Bayazitoğlu and James Higenyi (AIAA J) 424
Interaction of two burning fuel droplets of arbitrary size. T.A. Brzustowski, E.M. Twardus, S. Wojcicki, and A. Sobiesiak (AIAA J) 1234
Interior ballistic modeling applied to small-arms systems. Sidney Goldstein (PS, V.66) 67
Laser Raman studies of solid oxidizer behavior. T.B. Brill and F. Goetz (PS. V.63) 3
Modeling of two-phase flow in guns. P.S. Gough (PS, V.66) 176
Modeling parameter influences in gas turbine combustor design. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 257
Numerical simulation of combustor flowfields: a primitive variable design capability. A.S. Novick, G.A. Miles, and D.G. Lilley (JE) 95
Numerical solution of the two-dimensional premixed laminar flame equations. S.L. Aly, R.B. Simpson, and C.E. Hermance (AIAA J) 56
Oxidizer size distribution effects on propellant combustion. J.P. Renie, J.A. Condon, and J.R. Osborn (AIAA J) 877
Particle size analysis in solid propellant combustion research. Karl J. Kraeutle (PS, V.63) 76
Practical interior ballistic analysis of guns. Paul G. Baer (PS, V.66) 37
Procedure for optimizing the design of scramjet engines. P.J. Waltrup, F.S. Billig, and R.D. Stockbridge (JSR) 163
Production and analysis of thermal decomposition products from polymeric materials. D.A. Chatfield, I.N. Einhorn, F.D. Hileman, J.H. Futrell, and K.J. Voorhees (PS, V.63) 49
Rayleigh scattering measurements of time-resolved concentration in a turbulent propane jet. T. Michal Dyer (AIAA J, TN) 912

Size distribution and surface area measurements of gas turbine combustor smoke. W.R. Wyatt, J.A. Clark, J.E. Peters and A.M. Mellor (JE) 285
Turbulence effects on flame speed and flame structures. K.O. Smith and F.C. Goulding (AIAA J) 1243

Combustion Stability, Ignition, and Detonation

Charge design considerations and their effect on pressure waves in guns. Ingo W. May and Albert W. Horst (PS, V.66) 197
Coalescence/dispersion modeling of high-intensity combustion. David T. Pratt (JE) 177
Combustion performance of gas turbine combustors burning alternative fuels. D.R. Ballal and A.H. Lefebvre (JE) 50

Experimental study of the combustion processes in granular propellant beds. T.R. Davis and K.K. Kuo (JSR) 203
Flight vibration environments defined from Mk 12 booster static tests. N. Rubinstein and W.C. Caywood (JSR) 214
Historical perspective on gun interior ballistics at the U.S. Army Ballistic Research Laboratory. Leland A. Watermeier and John M. Hurban (PS, V.66)349
Hypergolic ignition of various hydrazones with nitric acid. S.R. Jain, P.M.M. Krishna, and V.R. Pai Verneker (JSR) 69
Ignition and flamespreading phenomena in granular propellant gun charges. J.L. East Jr. (PS, V.66) 228
Measurement of burning rates in transient combustion processes under the influence of external radiation. V.F. Mikheev, V.E. Zarko, S.M. Borin, K.P. Kutsenogii, and V.N. Simonenko (PS, V.63) 173
Measurements of unsteady parameters in reheat combustion instabilities. A.E. Smart, B. Jones, and N.T. Jewell (PS, V.63) 221
Methods of measurements in destructive fires. A. Murty Kanury (PS, V.63) 279
Numerical solution of the two-dimensional premixed laminar flame equations. S.L. Aly, R.B. Simpson, and C.E. Hemance (AIAA J) 56
Oxidizer size distribution effects on propellant combustion. J.P. Renie, J.A. Condon, and J.R. Osborn (AIAA J) 877
Particle size analysis in solid propellant combustion research. Karl J. Kraeutle (PS, V.63) 76
Schlieren studies of solid-propellant combustion. David W. Netzer and James R. Andrews (PS, V.63) 235
Simulation of liquid propellant rocket engine combustion instabilities. M.B. Ventrice, J.G. Fang, and K.R. Purdy (AIAA J) 1372
Variable-frequency driver-microwave transient regression rate measurement system. L.D. Strand and R.P. McNamara (PS, V.63) 155
Velocity coupling in oscillatory combustion of solid propellants. E.W. Price (AIAA J, RF) 799

Electric and Advanced Space Propulsion

Analytical study of laser-supported combustion waves in hydrogen. Nelson H. Kemp and Robert G. Root (JE) 40
Double ion production in argon and xenon ion thrusters. Paul J. Wilbur and Harold R. Kaufman (JSR) 264
Electric vs chemical propulsion for a large-cargo orbit transfer vehicle. John J. Rehder and Kathryn E. Wurster (JSR) 129
Electron bombardment thruster field and particle interfaces. David C. Byers (JSR, SP) 289
Ion beam divergence characteristics of three-grid accelerator systems. Graeme Aston and Harold R. Kaufman (AIAA J) 64
MPD thruster test on the space shuttle. Kyoichi Kuriki (JSR) 326
Nozzle flow in a laser-heated hydrogen rocket. Nelson H. Kemp and Robert G. Root (JSR, SYN)65
Spacecraft-generated plasma interaction with high-voltage solar array. D.E. Parks and I. Katz (JSR) 258
Thermal analysis of a conical cathode of an MPD arc. R.C. Mehta (AIAA J, TN) 1272
Thermal radiative properties of solar sail film materials. W.M. Rowe, E.E. Luedke, and D.K. Edwards (PS, V.65) 3
12-cm argon/xenon ion source. W.D. Ramsey (JSR) 252
15-cm Mercury multipole thruster. Glen R. Longhurst and Paul J. Wilbur (JSR) 42

Engine Performance

Adiabatic cycle analysis for the valved thermal compressor. A.P.M. Glassford (JE) 306
Decision theory model for health monitoring of aeroengines. V.V.S. Sarma, K.V. Kunhikrishnan, and K. Ramchand (JA, EN) 222
Development of a gas turbine combustor utilizing a catalyst. P. Flanagan, E.R. Norster, and R.V. Carrubba (JE) 75
Empirical simulation model for hydrazine attitude control thrusters. Subhash Garg(JSR) 389
Introduction to gun interior ballistics and a simplified ballistic code. Herman Krier and Michael J. Adams (PS, V.66) 1
Reverse thrust performance of a variable-pitch fan engine at forward velocity. D.C. Reemsnyder and D.A. Sagerser (JA) 848
15-cm Mercury multipole thruster. Glen R. Longhurst and Paul J. Wilbur (JSR) 42

Environmental Effects

Characteristic time correlations of pollutant emissions from an annular gas turbine combustor. A.M. Mellor and R.M. Washam (JE) 250
Combustor concepts for aircraft gas turbine low-power emissions reduction. Edward J. Mularz, Clifford C. Gleason, and Willard J. Dodds (JE) 55
Correlation technique for ambient effects on oxides of nitrogen. R.M. Washam and A.M. Mellor (JA) 626
Development of a gas turbine combustor utilizing a catalyst. P. Flanagan, E.R. Norster, and R.V. Carrubba (JE) 75
Size distribution and surface area measurements of gas turbine combustor smoke. W.R. Wyatt, J.A. Clark, J.E. Peters, and A.M. Mellor (JE) 285
Technology status of jet noise suppression concepts for advanced supersonic transports. W.T. Rowe, E.S. Johnson, and R.A. McKinnon (JA) 95

Fuels and Propellants, Properties of

Breakup of Al/Al_2O_3 agglomerates in accelerating flowfields. Leonard H. Caveny and Alon Gany (AIAA J) 1368
Burning sprays of jet A fuel-water emulsions. H. Jahani and S.R. Gollahalli (JA, EN) 798
Combustion of ammonium perchlorate-aluminum mixtures. V.R. Pai Verneker, D. Seetharamacharyulu, and R.M. Mallya (JSR, EN) 436
Comprehensive view of the combustion models of composite solid propellants. K. Kishore (AIAA J, SP) 1216
Effect of transition metal oxides on decomposition and deflagration of composite solid propellant systems: a survey. K. Kishore and M.R. Sunitha (AIAA J, SP) 1118
Environmental requirements for bubble pressure tests on fine-mesh screen. E.D. Simon (JSR) 218
Equations of state and thermodynamic data for interior ballistics calculations. E.G. Powell, G. Wilmot, L. Haar, and M. Klein (PS, V.66) 325
Erosive burning of composite solid propellants: experimental and modeling studies. Merrill K. King (JSR) 154
Gun propellants. Ludwig Stiefel (PS, V.66) 307
Historical perspective on gun interior ballistics at the U.S. Army Ballistic Research Laboratory. Leland A. Watermeier and John M. Hurban (PS, V.66) 349
Hypergolic ignition of various hydrazones with nitric acid. S.R. Jain, P.M.M. Krishna, and V.R. Pai Verneker (JSR) 69
Interior ballistic modeling applied to small-arms systems. Sidney Goldstein (PS, V.66) 67
Introduction to gun interior ballistics and a simplified ballistic code. Herman Krier and Michael J. Adams (PS, V.66) 1
Laser Raman studies of solid oxidizer behavior. T.B. Brill and F. Goetz (PS, V.63) 3
New solid propellant for European apogee boost motor. R. Isopi (JSR, SYN) 355
Optical properties of bipropellant exhaust constituents condensed at 77 K. J.A. Roux, B.E. Wood, R.E. Alt, D.F. Frazine, A.M. Smith, and H.E. Scott (JSR) 373
Sensitivity of ballistic performance to propellant combustion properties. P. Serao and J. Pierce (PS, V.66) 259
Study on combustion termination of solid propellants by rapid depressurization. Y.Y. Shan and C.C. Tao (JSR, SYN) 353
Turbulence effects on flame speed and flame structures. K.O. Smith and F.C. Gouldin (AIAA J) 1243
Variable-frequency driver-microwave transient regression rate measurement system. L.D. Strand and R.P. McNamara (PS, V.63) 155

Liquid Rocket Engines and Missile Systems

Cost comparison of dual-fuel propulsion in advanced shuttles. James A. Martin (JSR) 232
Effect of internal physical change on catalytic thruster performance. H.C. Hearn (JSR) 343
Effect of vibration on retention characteristics of screen acquisition systems. J.R. Tegart and J.C. Aydelott (JSR) 319
Environment requirements for bubble pressure tests on fine-mesh screen. E.D. Simon (JSR) 218
Performance characteristics of the HM7 rocket engine for the Ariane launcher. Marcel Pouliquen and Georges Gill (JSR) 367
Reusable insulation systems for cryogenic Earth-based space vehicles. Irving E. Summer and James R. Barber (PS, V.65) 275

Propulsion for Marine Application

Flow about a propeller-driven body in temperature-stratified fluid. T.F. Swean Jr. and J.A. Schetz (AIAA J) 863

Solid and Hybrid Rocket Engines

Analysis of axially symmetric external burning propulsion for bluff-base bodies. Gopal K. Mehta and Warren C. Strahle (AIAA J, SYN) 269
Breakup of Al/Al_2O_3 agglomerates in accelerating flowfields. Leonard H. Caveny and Alon Gany (AIAA J) 1368
Comment on "Pressure dependence of burning rate of composite solid propellants." Carl W. Nelson, George F. Adams, and J. Richard Ward (AIAA J, TC) 222
--Reply by authors to Nelson, Adams, and Ward. R.P. Rastogi, H.J. Singh, and A.K. Srivastava (AIAA J, TC) 223
Comprehensive view of the combustion models of composite solid propellants. K. Kishore (AIAA J, SP) 1216

Coupled thermomechanical effects in high solids propellant. Tieh-Ying Lee (AIAA J, TN) 1015
Effect of transition metal oxides on decomposition and deflagration of composite solid propellant systems: a survey. K. Kishore and M.R. Sunitha (AIAA J, SP) 1118
Effects of propellant temperature gradients on thrust imbalance of the space shuttle. Richard H. Sforzini, Winfred A. Foster Jr., and Benjamin W. Shackelford Jr. (JSR) 135
Erosive buring study of composite solid propellants by turbulent boundary-layer approach. M.K. Razdan and K.K. Kuo (AIAA J) 1225
Hypergolic ignition of various hydrazones with nitric acid. S.R. Jain, P.M.M. Krishna, and V.R. Pai Verneker (JSR) 69
New law for crack propagation in solid propellant material. G. Langlois and R. Gonard (JSR) 357
New solid propellant for European apogee boost motor. R. Isopi (JSR, SYN) 355
On the emissivity of alumina/aluminum composite particles. Thomas J. Rieger (JSR, EN) 438
Probability of solid-propellant motor failure due to environmental temperatures. R.A. Heller, M.P. Kamat, and M.P. Singh (JSR) 140
Study on combustion termination of solid propellants by rapid depressurization. Y.Y. Shan and C.C. Tao (JSR, SYN) 353
Temperature sensitivity and erosive burning. Robert L. Glick (JSR, EN) 58
Velocity coupling in oscillatory combustion of solid propellants. E.W. Price (AIAA J, RF) 799
Weight of x-ray shields for interceptor missiles. Thomas L. Cost (JSR) 172

SPACECRAFT TECHNOLOGY

Data Sensing, Presentation, and Transmission

Image feature analysis using DEFT sensors. S.T. Kowel, P.G. Kornreich, A. Mahapatra, M.Mehter, and T. Szebenyi (PS, V.67) 380
Indium antimonide infrared CCD linear imaging arrays with on-chip preprocessing. R.D. Thom, T.L. Koch, and W.J. Parrish (PS, V.67) 411
Integrated detector array preprocessing for infrared astronomical applications. C.R. McCreight and H. Lum (PS, V.67) 455
Integrated optical preprocessor for multichannel analog data. C.M. Verber (PS, V.67) 367
Modular onboard adaptive imaging. R. Eskenazi and D.S. Williams (PS, V.67) 305
Monolithic saw-charge transfer device. N.A. Papanicolaou and H.C. Lin (PS, V. 67) 325
Onboard processing for future space-borne imaging systems. John B. Wellman and David D. Norris (PS, V.67) 193
Role of autonomous satellite navigation in the NEEDS program. Arthur J. Fuchs and Rosemarna S. Pajerski (PS, V.67) 233
Sensor data autonomy. Edward P. Greene and Richard desJardins (PS, V.67) 246
"Smart" from a NEEDS perspective. David L. Blanchard (PS, V.67) 166
"Smart" remote holographic processor based on the materials characteristics of $LiNbO_3$. D.W. Vahey (PS, V.67) 352
"Smart" remote sensor needs for U.S. Coast Guard ocean environment missions. Richard M. Hayes (PS, V.67) 44
Smart sensors in spacecraft: impact and trends. Roger A. Breckenridge and Charles Husson (PS, V.67) 3

Earth-Orbital Trajectories

Bounds on the solution to a universal Kepler's equation. John E. Prussing (JGC, EN) 440
Changing inclination for shuttle payloads. T.M. Spencer, R. Glickman, and G. Porcelli (JGC) 264
Comparison of classical analytic theories for the motion of artificial satellites. R.A. Gordon, G.D. Mistretta, and J.S. Watson (JGC) 184
Constrained impulsive trajectory optimization for orbit-to-orbit transfer. Richard G. Brusch (JGC) 204
Ground-control system for Satcom satellites. J. Lewin (JSR) 273
Optimal impulsive maneuvers to accomplish small plane changes in an elliptical orbit. T.J. Lang (JGC) 271
Relative motion of particles in coplanar elliptic orbits. Terry Berreen and George Sved (JGC, EN) 443
Role of autonomous satellite navigation in the NEEDS program. Arthur J. Fuchs and Rosemarna S. Pajerski (PS, V.67) 233
Satellite-to-satellite tracking orbit dertermination. B.T. Fang (JGC) 57
Stationkeeping at constant distance. Wayne A.Fey (JGC, EN) 90

Entry Vehicle Dynamics and Control

Angular motion of spinning almost-symmetric missiles. Charles H. Murphy (JGC) 504
Approximate analysis of roll/trim dispersion. D. Siegelman and R. Hines (JSR) 15
Heat- and mass-transfer effects on three-dimensional hypersonic viscous shock-layer flows. A.L. Murray and Clark H. Lewis (PS, V.64) 165
Optimal trajectories for a ballistic re-entry vehicle recovery system. Walton E. Williamson Jr. (JGC, EN) 536
Re-entry vehicle dispersion from entry angular misalignment. D.H. Platus (JGC) 276
Selection of the guidance variable for a re-entry vehicle. Steven M. Archer and David D. Sworder (JGC) 130
Temperature control analysis and flight results for the Viking Orbiter 1975 Mars atmospheric water detector instrument. H. M. Kavanagh and F.L. Murphy (PS, V.65) 407

Entry Vehicle Testing, Flight and Ground

Application of digital Fourier analysis in processing dynamic aerodynamic heating measurements. Leroy M. Jenke (AIAA J, SYN) 641
Fluctuating pressures on mildly indented nosetips. J. Peter Reding (JSR) 302
Measurements of transition-front asymmetries on ablating graphite nosetips in hypersonic flight. Daniel C. Reda and Richard M. Raper (AIAA J) 1201
System identification technology of estimating re-entry vehicle aerodynamic coefficients. Narendra K. Gupta and W. Earl Hall Jr. (JGC) 139

Entry Vehicles and Landers

Effects of atmospheric structure on radiative heating for Jupiter entry probe. K. Sutton, J.J. Jones, and R.W. Powell (PS, V.64) 3
Jupiter probe heat-shield configuration optimization. Ray B. Dirling Jr. and John D. Binder (PS, V.64) 321
Thermal design and development of Pioneer Venus large probe. L.A. Hennis and M.N. Varon (PS, V.65) 425

Extra-Vehicular Activity

Unaided EVA intercept and rendezvous charts. Frederick H. Lutze (JSR) 426

Lunar and Interplanetary Trajectories

Bounds on the solution to a universal Kepler's equation. John E. Prussing (JGC, EN) 440
Geometrical interpretation of the angles α and β in Lambert's problem. John E. Prussing (JGC, EN) 442
Low-thrust maneuvers near the libration points. A. Marinescu (JGC) 119
Lunar material transport: comparison of modes employing achromatic trajectories. T.A. Heppenheimer (JSR, EN) 60
Optimum thrust trajectories in general central force fields. Winfried Teschner (JGC) 517
Traveling between the Lagrange points and the moon. R. Broucke (JGC) 257

Spacecraft Configurational and Structural Design (including Loads)

New concepts for Mercury orbiter missions. J.R. French, J.R. Stuart, and B. Zeldin (JSR) 35
Nuclear-powered communications satellite for the 1980's. Marshall H. Kaplan, David J. Cwynar, and Joseph Bednarz (JSR) 268
Voyager design and flight loads comparison. J.C. Chen, J.A. Garba, and F.D. Day III (JSR) 27

Spacecraft Dynamics and Control

Advanced spacecraft autopilot concept. Edward V. Bergmann, S.R. Croopnick, J.J. Turkovich, and C.C. Work (JGC) 161
Annular suspension and pointing system. Willard W. Anderson, Nelson J. Groom, and Charles T. Woolley (JGC) 367
Application of square-root filtering for spacecraft attitude control. J.A. Sorensen, S.F. Schmidt, and T. Goka (JGC) 426
Attitude behavior of a dual-spin spacecraft composed of asymmetric bodies. Kazuo Tsuchiya (JGC) 328
Control technology challenges for gravitational physics experiments in space. Daniel B. DeBra (JGC) 147
Design of a two-level adaptive flight control system. P.N. Nikiforuk, H. Ohta, and M.M. Gupta (JGC) 79
Direct velocity feedback control of large space structures. Mark J. Balas (JGC, EN) 252
Distributed control of spinning flexible spacecraft. L. Meirovitch, H.F. VanLandingham, and H. Öz (JGC) 407
Eigenrelations for general second-order systems. H.D. Nelson and D.A. Glasgow (AIAA J, TN) 795
Eigensolution for large flexible spacecraft with singular gyroscopic matrices. Joseph R. Canavin and Leonard Meirovitch (JGC, EN) 88

Empirical simulation model for hydrazine attitude control thrusters. Subhash Garg (JSR) 389
Flight experience with a near-optimal attitude control system. Charles A. Bénet (JGC) 416
Flight results on structural dynamics from Hermes. S.C. Garg, P.C. Hughes, R.A. Millar, and F.R. Vigneron (JSR) 81
Galileo dual-spin attitude and articulation control system. Richard S. Ward (JGC) 420
Magnetic attitude control of a momentum-biased satellite in near-equatorial orbit. P.S. Goel and S. Rajaram (JGC) 334
New single-rotation-axis autopilot for rapid spacecraft attitude maneuvers. L.A. D'Amario and G.S. Stubbs. (JGC) 339
Observer modal control of dual-spin flexible spacecraft. L. Meirovitch and H. Öz (JGC) 101
Optimal open-loop maneuver profiles for flexible spacecraft. R.L. Farrrenkopf (JGC) 491
Quaternion singularity revisited. Carl Grubin (JGC, EN) 255
Relative quaternion state transition relation. Ronald A. Mayo (JGC) 44
Simulation of Skylab orbit decay and attitude dynamics. Marshall H. Kaplan, David J. Cwynar, and Stephen G. Alexander (JGC) 511
Stability analysis of a flexible spacecraft with a sampled-data attitude sensor. Subhash Garg (JGC) 169
Stability bounds for the control of large space structures. Suresh M. Joshi and Nelson J. Groom (JGC, EN) 349
Stability of proprotional-plus-derivative-plus-integral control of flexible spacecraft. Peter C. Hughes and Tarek M. Abdel-Rahman (JGC) 499
Two decades of spacecraft attitude control. Robert E. Roberson (JGC, Historical Survey Lecture) 3
Valve delay effects on bending limit cycles of a deadband system. Franklin C. Loesch (JGC, EN) 436

Spacecraft Electric Power

Nuclear-powered communications satellite for the 1980's. Marshall H. Kaplan, David J. Cwynar, and Joseph Bednarz (JSR) 268
Solar thermoelectric power generation for Mercury orbiter missions. M. Swerdling and V. Raag (JE) 291
Spacecraft-generated plasma interaction with high-voltage solar array. D.E. Parks and I. Katz (JSR) 258

Spacecraft Missions and Economics

Space-manufactured satellite power systems. R.H. Miller and D.L. Akin (JE, TN) 373

Spacecraft Navigation, Guidance, and Flight-Path Control

Changing inclination for shuttle payloads. T.M. Spencer, R. Glickman, and G. Porcelli (JGC) 264
Constrained impulsive trajectory optimization for orbit-to-orbit transfer. Richard G. Brusch (JGC) 204
Fault detection threshold determination technique using Markov theory. Bruce K. Walker and Eliezer Gai (JGC) 313
Generalized likelihood test for FDI in redundant sensor configurations. Kevin C. Daly, Eliezer Gai, and James V. Harrison (JGC) 9
Geometrical interpretation of the angles α and β in Lambert's problem. John E. Prussing (JGC, EN) 442
Ground-control system for Satcom satellites. J. Lewin (JSR) 273
Improved orbit estimation by satellite-mounted gravity gradiometers. B. Zondek (JGC) 173
Interferometric attitude determination with the global positioning system. J.F. Ellis and G.A. Creswell (JGC) 522
Mixed observable estimation of random thrust errors for solar electric propulsion spacecraft. Robert B. Asher, Thomas J. Eller, Stanley R. Robinson, Mark D.A. Shackelford, and Byron D. Tapley (JGC) 49
Optimal impulsive maneuvers to accomplish small plane changes in an elliptical orbit. T.J. Lang (JGC) 271
Phobos encounter trajectory and maneuver design. R.E. Diehl, M.J. Adams, and E.A. Rinderle Jr. (JGC) 123
Quaternion singularity revisited. Carl Grubin (JGC, EN) 255
Relative motion of particles in coplanar elliptic orbits. Terry Berreen and George Sved (JGC, EN) 443
Role of autonomous satellite navigation in the NEEDS program. Arthur J. Fuchs and Rosemarna S. Pajerski (PS, V.67) 233
Satellite-to-satellite tracking orbit determination. B.T. Fang (JGC) 57
Unaided EVA intercept and rendezvous charts. Frederick H. Lutze (JSR) 426

Spacecraft Propulsion Systems Integration

Changing inclination for shuttle payloads. T.M. Spencer, R. Glickman, and G. Porcelli (JGC) 264
Electron bombardment thruster field and particle interfaces. David C. Byers (JSR, SP) 289
Propulsion options for space-based orbital transfer vehicles. John J. Rehder, Kathryn E. Wurster, Ian O. MacConochie, and Phillip J. Klich (JSR) 333

Spacecraft Signatures and Tracking

Application of DSN spacecraft tracking technology to experimental gravitation. J.D. Anderson and F.B. Estabrook (JSR) 120
Ground-control system for Satcom satellites. J. Lewing (JSR) 273
Image feature analysis using DEFT sensors. S.T. Kowel, P.G. Kornreich, A. Mahapatra, M. Mehter, and T. Szebenyi (PS, V.67) 380

Spacecraft Simulation

Design of a two-level adaptive flight control system. P.N. Nikiforuk, H. Ohta, and M.M. Gupta (JGC) 79
Empirical simulation model for hydrazine attitude control thrusters. Subhash Garg (JSR) 389
General expression for a three-angle rotation matrix. James M. Wilkes (JGC, EN) 156
New single-rotation-axis autopilot for rapid spacecraft attitude maneuvers. L.A. D'Amario and G.S. Stubbs (JGC) 339
Relative quaternion state transition relation. Ronald A. Mayo (JGC) 44
Simulation of Skylab orbit decay and attitude dynamics. Marshall H. Kaplan, David J. Cwynar, and Stephen G. Alexander (JGC) 511

Spacecraft Systems

Advanced spacecraft autopilot concept. Edward V. Bergmann, S.R. Croopnick, J.J. Turkovich, and C.C. Work (JGC) 161
Annular suspension and pointing system. Willard W. Anderson, Nelson J. Groom, and Charles T. Woolley (JGC) 367
First steps into space, 1946-1978. Ernst Stuhlinger (JSR, Historical Survey Lecture) 3
New concepts for Mercury orbiter missions. J.R. French, J.R. Stuart, and B. Zeldin (JSR) 35
Onboard data processing for the IRAS telescope system. H. Lum, P. Neal, D. Wong, and E. Long (PS, V.67) 265
Onboard processing for future space-borne imaging systems. John B. Wellman and David D. Norris (PS, V.67) 193
Real-time determination of geophysical parameters from a multibeam altimeter. J.T. McGoogan and E.J. Walsh (PS, V.67) 110
Space shuttle orbiter and aerodynamic testing. Paul M. Siemers III and Terry J. Larson (JSR) 223

Spacecraft Temperature Control

Aerothermodynamic assessment of corrugated panel thermal protection system. Harold J. Brandon, Allen H. Britt, and James C. Dunavant (PS, V.64) 387
Cost-effective method for measuring contamination effects. Chang-Keng Liu and A.P.M. Glassford (JSR) 402
Design and test evaluation of a solid cryogen cooler insulation system. J.E. Ahern and T.W. Lawson (PS,V.65) 307
Development of a liquid-trap heat pipe thermal diode. M. Groll, W.D. Munzel, W. Supper, and C.J. Savage (JSR) 195
Development of a low-temperature phase change thermal capacitor. Leon Bledjian, J.R. Burden, and W. H. Hanna (PS, V.65) 255
Evalution of commercially available spacecraft-type heat pipes. W.B. Kaufman and L.K. Tower (JSR) 98
New concepts for Mercury orbiter missions. J.R. French, J.R. Stuart, and B. Zeldin (JSR) 35
Porcelain enamel passive thermal control coating. H. Leggett and H.M. King (PS, V.65) 327
Present capabilities and extension possibilities of the Spacelab thermal control system. E. Vallerani, P.L. Degli Esposti, and B. Sessions (JSR) 405
Radiation shape factors between end plane and outer wall of concentric tubular enclosures. C.P. Minning (AIAA J, TN) 1406
Shape factors between coaxial annular disks separated by a solid cylinder. C.P. Minning (AIAA J, TN) 318
Temperature control analysis and flight results for the Viking Orbiter 1975 Mars atmospheric water detector instrument. H.M. Kavanagh and F.L. Murphy (PS, V.65) 407
Temperature distribution in louvered panels. Robert D. Karam (JSR) 92
Thermal analysis of a high-energy propulsion system for a Rover class Mars orbiter. James W. Stultz (PS, V.65) 3
Thermal design and development of Pioneer Venus large probe. L.A. Hennis and M. N. Varon (PS, V.65) 425
Thermal radiative properties of solar sail film materials. W.M. Rowe, E.E. Luedke, and D.K. Edwards (PS, V.65) 3
Thermal studies for a solar sail space vehicle. L.D. Stimpson, M.L. Greenfield, W. Jaworski, and F. Wolf (PS, V.65) 388
Triple-point pressure evaporation of impacted droplets. James J. Rizza (JSR) 210

Variable-conductance heat pipe radiator for MAROTS-type communication spacecraft. C.J. Savage, B.G.M. Aalders, and H. Kreeb (JSR) 176

Spacecraft Testing, Flight and Ground

Development of a multipurpose radiometer. Reagan S. Redman and Calvin M. Wolff (JSR, EN) 350
Electron bombardment thruster field and particle interfaces. David C. Byers (JSR, SP) 289
Flight results on structural dynamics from Hermes. S.C. Garg, P.C. Hughes, R.A. Millar, and F.R. Vigneron (JSR) 81
Present capabilities and extension possibilities of the Spacelab thermal control system. E. Vallerani, P.L. Degli Esposti, and B. Sessions (JSR) 405
Space shuttle orbiter and aerodynamic testing. Paul M. Siemers III and Terry J. Larson (JSR) 223

Space Station Systems, Manned

Traveling between the Lagrange points and the moon. R. Broucke (JGC) 257

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Hydroelasticity

Accurate numerical evaluation of modified Struve functions occurring in unsteady aerodynamics. R.N. Desmarais (JA) 441
Active external store flutter suppression in the YF-17 flutter model. E. Nissim and I. Lottati (JGC) 395
Aeroelastic stability analysis of the AD-1 manned oblique-wing aircraft. Michael J. Rutkowski (JA) 401
Aeroelastic stability and response of horizontal axis wind turbine blades. S.B.R. Kottapalli, P.P. Friedmann, A. Rosen (AIAA J) 1381
Aeroelasticity research for turbomachine applications. Sanford Fleeter (JA) 320
Aeroservoelastic encounters. Larry R. Felt, Lawrence J. Huttsell, Thomas E. Noll, and Dale E. Cooley (JA) 477
Calculation of eigenvalue and eigenvector derivatives for algebraic flutter and divergence eigenproblems. C. Cardani and P. Mantegazza (AIAA J) 408
Calculation of rotor impedance for articulated-rotor helicopters in forward flight. Kanichiro Kato and Takashi Yamane (JA) 470
Calculation of rotor impedance for hovering articulated-rotor helicopters. Kinichiro Kato and Takashi Yamane (JA) 15
Comment on "Active flutter control using generalized unsteady aerodynamic theory." Ranjan Vepa (JGC, TC) 446
--Reply by authors to R. Vepa. John W. Edwards, John V. Breakwell, and Arthur E. Bryson Jr. (JGC, TC) 447
Computational scheme for structural influence coefficients of certain planar wings. John Elliott Moore Jr. and Malcolm A. Cutchins (JA) 315
Control law synthesis for active flutter suppression using optimal control theory. Jerry R. Newsom (JGC) 388
Demonstration of aircraft wing/store flutter suppression systems. Chintsun Hwang, Bertil A. Winther, George R. Mills, Thomas E. Noll, and Moses G. Farmer (JA) 557
Dynamic response of axisymmetric solids subjected to impact and spin. Gordon R. Johnson (AIAA J) 975
Dynamics of a fluid conveying fiber-reinforced shell. D.B. Muggeridge and T.J. Buckley (AIAA J, TN) 663
Effects of dynamic aeroelasticity on aircraft handling qualities. Robert L. Swaim and Wen-Yo Yen (JA, EN) 635
Efficient structural resizing procedure for meeting static aeroelastic design objectives. Edwin Lerner and Joel Markowitz (JA) 65
Elementary explanation of the flutter mechanism with active feedback controls. Hidetsugu Horikawa and Earl H. Dowell (JA) 255
Examination of the flap-lag stability of rigid articulated rotor blades. K.R.V. Kaza and R.G. Kvaternik (JA) 876
Finite-element solution of the supersonic flutter of conical shells. Maher N. Bismarck-Nasr and Hely R. Costa Savio (AIAA J, TN) 1148
Flexural vibration of orthotropic cylindrical shells in a fluid medium. D.B. Muggeridge and T.J. Buckley (AIAA J, TN) 1019
Hypersonic aerothermoelastic characteristics of a finned missile. L.E. Ericsson, B.O. Almroth, and J.A. Bailie (JSR) 187
Numerical prediction of typical articulated rotor impedance. Kanichiro Kato and Takashi Yamane (JA, SYN) 417
On the transonic-dip mechanism of flutter of a sweptback wing. Koji Isogai (AIAA J, TN) 793
Rebuttal to reply by author to "Comment on 'Flutter of flat finite element panels in a supersonic potential flow'." William P. Rodden (AIAA J, RF) 446
--Reply by author to rebuttal by W.P. Rodden. T.Y. Yang (AIAA J, RF) 448
Single-degree-of-freedom flutter induced by activated controls. E. Nissim and I. Lottati (JGC) 402
Stability of inviscid shear flow over flexible membranes. Wilson C. Chin (AIAA J, TN) 665
Theoretical technique for analyzing aeroelastic stability of bearingless rotors. Dewey H. Hodges (AIAA J) 400
Unsteady aerodynamic modeling for arbitrary motions. John W. Edwards, Holt Ashley, and John V. Breakwell (AIAA J) 365
Visualization of quasiperiodic flows. Robert A. Kadlec and Sanford S. Davis (AIAA J) 1164

Materials, Properties of

Behavior of partially metallized Kapton for spacecraft charging control. Paul A. Robinson Jr. (JSR) 104
Bubble behavior during solidification in low gravity. John M. Papazian, Robert Gutowski, and William R. Wilcox (AIAA J) 1111
Contamination design analysis approach for Spacelab. L.E. Bareiss (JSR) 394
Coupled thermomechanical effects in high solids propellant. Tieh-Ying Lee (AIAA J, TN) 1015
Effect of internal heat transport on the thermal migration of bubbles. John M. Papazian and Robert L. Kosson (AIAA J, TN) 1279
Effects of purity on fatigue and fracture of 7XXX-T76511 aluminum extrusion. J.M. Van Orden, W.E. Krupp, E. Walden, and J.T. Ryder (JA) 327
Low-pressure diffusion bonding of titanium. J.F. Kenney and C. Deminet (JSR) 88
New law for crack propagation in solid propellant material. G. Langlois and R. Gonard (JSR) 357
Screening of liquids for thermocapillary bubble movement. William R. Wilcox, R. Shankar Subramanian, John M. Papazian, Harry D. Smith, and Douglas M. Mattox (AIAA J, TN) 1022
Secondary bonding of carbon/carbon composites. H.O. Davis (JSR) 432
Shear properties of promising adhesives for bonded joints in composite material structures. D.L. Flaggs and J.R. Vinson (JA) 51

Structural Composite Materials

Application of brittle coatings to graphite fiber-reinforced plastics. R. Prabhakaran (AIAA J, TN) 110
Asymmetric vibrations of polar orthotropic laminated annular plates. Isaac Elishakoff and Yehuda Stavsky (AIAA J) 507
Buckling of imperfect anisotropic circular cylinders under combined loading. M. Booton and R.C. Tennyson (AIAA J) 278
Design-to-cost with advanced composites and advanced metallics. Leonard Ascani and Leslie Lackman (JA) 714
Dynamics of a fluid conveying fiber-reinforced shell. D.B. Muggeridge and T.J. Buckley (AIAA J, TN) 663
Fatigue failure of multidirectional laminate. Assa Rotem (AIAA J) 271
Flexural vibration of orthotropic cylindrical shells in a fluid medium. D.B. Muggeridge and T.J. Buckley (AIAA J, TN) 1019
General panel sizing computer code and its application to composite structural panels. Melvin S. Anderson and W. Jefferson Stroud (AIAA J) 892
Impact induced stresses waves in an anisotropic plate. Byoung Sung Kim and Francis Moon (AIAA J) 1126
Numerical and experimental comparison of the notch tip stresses in a laminated plate. W.P. Witt III, A.N. Palazotto, and H.T. Hahn (AIAA J) 500
Optimum design of laminated plates under axial compression. Yoichi Hirano (AIAA J, TN) 1017
Preliminary design of composite wings for buckling, strength, and displacement constraints. James H. Starnes Jr. and Raphael T. Haftka (JA) 564
Repair concepts for advanced composite structures. S.H. Myhre and C.E. Beck (JA) 720
Secondary bonding of carbon/carbon composites. H.O. Davis (JSR) 432
Shear correction factors for laminated plates. Sailendra N. Chatterjee and Satish V. Kulkarni (AIAA J, SYN) 498

Structural Design

Aiming an electromagnetic beam by bending segments of a large reflecting surface. David Bushnell (AIAA J) 413
Analysis of cracked, adhesively bonded laminated structures. M.M. Ratwani (AIAA J) 988
Applicability of an asymptotic expansion for elastic buckling problems with mode interaction. Esben Byskov (AIAA J) 630
Calculation of eigenvalue and eingenvector derivatives for algebraic flutter and divergence eigenproblems. C. Cardani and P. Mantegazza (AIAA J) 408
Comment on "Optimal weighted orthogonalization of measured modes." A. Berman (AIAA J, RF) 927
--Reply by authors to A. Berman. Menahem Baruch and Itzhack Y. Bar Itzhack (AIAA J, RF) 928

Comparison of optimality criteria algorithms for minimum weight design of structures. N.S. Khot, L. Berke, and V.B. Venkayya (AIAA J) 182
Control of surface configuration by application of concentrated loads. David Bushnell (AIAA J) 71
Control of surface configuration of nonuniformly heated shells. David Bushnell (AIAA J) 78
Cost-effective use of minicomputers to solve structural problems. Olaf O. Storaasli and Edwin P. Foster (JA) 775
Cutout reinforcement of stiffened cylindrical shells. J.A. Cervantes and A.N. Palazotto (JA) 203
Design-to-cost with advanced composites and advanced metallics. Leonard Ascani and Leslie Lackman (JA) 714
Efficient structural resizing procedure for meeting static aeroelastic design objectives. Edwin Lerner and Joel Markowitz (JA) 65
Low-pressure diffusion bonding of titanium. J.F. Kenney and C. Deminet (JSR) 88
Mass matrix correction using an incomplete set of measured modes. Alex Berman (AIAA J, TN) 1147
Methods of design sensitivity analysis in structural optimization. Jasbir S. Arora and Edward J. Haug (AIAA J) 970
Mirror deformation for phase compensation of a thermally bloomed laser beam. David Bushnell and Jörgen Skogh (AIAA J) 288
New look at structural reliability and risk theory. Frederick H. Hooke (AIAA J) 980
Optimality criterion method for large-scale structures. M.R. Khan, K.D. Willmert, and W.A. Thornton (AIAA J) 753
Optimization of a stiffened square panel subjected to compressive edge loads. Avinoam Libai (AIAA J, SYN) 1379
Optimization of triangular laced truss columns with tubular compression members for space application. Chai Hong Yoo (AIAA J, TN) 921
Optimum design of laminated plates under axial compression. Yoichi Hirano (AIAA J, TN) 1017
Optimum design of structures at elevated temperatures. Howard M. Adelman, Patricia L. Sawyer, and Charles P. Shore (AIAA J) 622
Preliminary design of composite wings for buckling, strength, and displacement constraints. James H. Starnes Jr. and Raphael T. Haftka (JA) 564
Rapid calculation of the resonance frequency for rotationally restrained rectangular plates. Esam M. Nassar (AIAA J) 6
Repair concepts for advanced composite structures. S.H. Myhre and C.E. Beck (JA) 720
Secondary bonding of carbon/carbon composites. H.O. Davis (JSR) 432
Shear correction factors for laminated plates. Sailendra N. Chatterjee and Satish V. Kulkarni (AIAA J, SYN) 498

Structural Durability (including Fatigue and Fracture)

Absence of bending effects on solar-receiver-tube fatigue. J. Jones (JE, TN) 187
Accelerated mission testing of gas turbine engines. Jon S. Ogg and Wilson R. Taylor (JA) 247
Analysis of cracked, adhesively bonded laminated structures. M.M. Ratwani (AIAA J) 988
Effects of purity on fatigue and fracture of 7XXX-T76511 aluminum extrusion. J.M. Van Orden, W.E. Krupp, E. Walden, and J.T. Ryder (JA) 327
Erosion prediction near a stagnation point resulting from aerodynamically entrained solid particles. J.A. Laitone (JA) 809
Factors affecting residual strength prediction of a cracked aircraft structure. M.M. Ratwani and D.P. Wilhem (JA) 209
Fatigue failure of multidirectional laminate. Assa Rotem (AIAA J) 271
Fluid-structure interaction dynamics in aircraft fuel tanks. M.A. Ferman and W.H. Unger (JA) 885
New look at structural reliability and risk theory. Frederick H. Hooke (AIAA J) 980
Operational environment of Naval aircraft gas turbines. Scott M. Coté and James L. Byers (JA) 729
Reusable solid rocket motor case: optimum probabilistic fracture control. S. Hanagud and B. Uppaluri (JSR) 147

Structural Dynamics

Aeroservoelastic encounters. Larry R. Felt, Lawrence J. Huttsell, Thomas E. Noll, and Dale E. Cooley (JA) 477
Approach for estimating vibration characteristics of nonuniform rotor blades. K.-W. Lang and S. Nemat-Nasser (AIAA J) 995
Asymmetric vibrations of polar orthotropic laminated annular plates. Isaac Elishakoff and Yehuda Stavsky (AIAA J) 507
Bessel function evaluation of the clamped end bending moment of an impulsively loaded beam. Henry E. Fettis (AIAA J, TN) 116
Comment on "Optimal weighted orthogonalization of measured modes." A. Berman (AIAA J, RF) 927
--Reply by authors to A. Berman. Menahem Baruch and Itzhack Y. Bar Itzhack (AIAA J, RF) 928
Comment on "Unconstrained variational statements for initial and boundary value problems." Cecil D. Bailey (AIAA J, RF) 541
--Reply by author to C.D. Bailey. T.E. Simkins (AIAA J, RF) 542
Comment on "Unconstrained variational statements for initial and boundary-value problems." C.V. Smith Jr. (AIAA J, TC) 126
--Reply by author to C.V. Smith Jr. T.E. Simkins (AIAA J, TC) 127
Computational scheme for structural influence coefficients of certain planar wings. John Elliott Moore Jr. and Malcolm A. Cutchins (JA) 315
Control law synthesis for active flutter suppression using optimal control theory. Jerry R. Newsom (JGC) 388
Demonstration of aircraft wing/store flutter suppression systems. Chintsun Hwang, Bertil A. Winther, George R. Mills, Thomas E. Noll, and Moses G. Farmer (JA) 557
Design procedures for flutter-free surface panels. Robert M. Laurenson, James I. McPherson, and Charles P. Shore (AIAA J, SYN) 398
Direct solutions for Sturm-Liouville systems with discontinuous coefficients. Dewey H. Hodges (AIAA J, TN) 924
Direct velocity feedback control of large space structures. Mark J. Balas (JGC, EN) 252
Distributed control of spinning flexible spacecraft. L. Meirovitch, H.F. VanLandingham, and H. Öz (JGC) 407
Drones for aerodynamic and structural testing (DAST)—a status report. H.N. Murrow and C.V. Eckstrom (JA) 521
Dynamic response analysis of structural systems using a direct integration method. J.S. Przemieniecki and R.J. Talbot (JA) 195
Dynamic response of axisymmetric solids subjected to impact and spin. Gordon R. Johnson (AIAA J) 975
Dynamic response of inelastic thick plates. S.S. Rao and K.S. Raghavan (AIAA J) 85
Dynamics of flexible hybrid structures. Hartmut Bremer (JGC, EN) 86
Eigenrelations for general second-order systems. H.D. Nelson and D.A. Glasgow (AIAA J, TN) 795
Eigensolution for large flexible spacecraft with singular gyroscopic matrices. Joseph R. Canavin and Leonard Meirovitch (JGC, EN) 88
Estimation of payload loads using rigid-body interface accelerations. J.C. Chen, J.A. Garba, and B.K. Wada (JSR) 74
Finite-element solution of the supersonic flutter of conical shells. Maher N. Bismarck-Nasr and Hely R. Costa Savio (AIAA J, TN) 1148
Fluid-structure interaction dynamics in aircraft fuel tanks. M.A. Ferman and W.H. Unger (JA) 885
Historical perspective on gun interior ballistics at the U.S. Army Ballistic Research Laboratory. Leland A. Watermeier and John M. Hurban (PS, V.66) 349
Impact induced stress waves in an anisotropic plate. Byoung Sung Kim and Francis Moon (AIAA J) 1126
Mass matrix correction using an incomplete set of measured modes. Alex Berman (AIAA J, TN) 1147
Modal analysis of the transient asymmetric response of thin circular plates. H.D. Fisher (AIAA J, TN) 1274
Nonlinear transient analysis via energy minimization. Manohar P. Kamat and Norman F. Knight Jr. (AIAA J, SYN) 968
Observer modal control of dual-spin flexible spacecraft. L. Meirovitch and H. Öz (JGC) 101
Rapid calculation of the resonance frequency for rotationally restrained rectangular plates. Esam M. Nassar (AIAA J) 6
Rebuttal to reply by author to "Comment on 'Flutter of flat finite element panels in a supersonic potential flow'." William P. Rodden (AIAA J, RF)446
--Reply by author to rebuttal by W.P. Rodden. T.Y. Yang (AIAA J, RF) 448
Rotor blade stability in turbulent flows - part I. Y.K. Lin, Y. Fujimori, and S.T. Ariaratnam (AIAA J) 545
Rotor blade stability in turbulent flows - part II. Y. Fujimori, Y.K. Lin, and S.T. Ariaratnam (AIAA J) 673
Selective optimal orthogonalization of measured modes. Menahem Baruch (AIAA J, TN) 120
Shear correction factors for laminated plates. Sailendra N. Chatterjee and Satish V. Kulkarni (AIAA J, SYN) 498
Theoretical technique for analyzing aeroelastic stability of bearingless rotors. Dewey H. Hodges (AIAA J) 400
Time-dependent response of a two-dimensional airfoil in transonic flow. D.P. Rizzetta (AIAA J) 26
Unsteady aerodynamic modeling for arbitrary motions. John W. Edwards, Holt Ashley, and John V. Breakwell (AIAA J) 365
Vibration statistics of thin plates with complex form. Aleksander Waberski (AIAA J, ERR) 544
Vibration techniques for definition of practical boundary conditions in stiffened shells. Josef Singer and Haim Abramovich (AIAA J) 762
Voyager design and flight loads comparison. J.C. Chen, J.A. Garba, and F.D. Day III (JSR) 27
Wing store active flutter suppression — correlation of analyses and wind-tunnel data. T.E. Noll and L.J. Huttsell (JA) 491

Structural Stability

Aeroelastic instability in F100 labyrinth air seals. D.A. Lewis, C.E. Platt, and E.B. Smith (JA) 484

Aeroelastic stability analysis of the AD-1 manned oblique-wing aircraft. Michael J. Rutkowski (JA) 401
Applicability of an asymptotic expansion for elastic buckling problems with mode interaction. Esben Byskov (AIAA J) 630
Buckling of imperfect anisotropic circular cylinders under combined loading. M. Booton and R.C. Tennyson (AIAA J) 278
Cutout reinforcement of stiffened cylindrical shells. J.A. Cervantes and A.N. Palazotto (JA) 203
Elementary explanation of the flutter mechanism with active feedback controls. Hidetsugu Horikawa and Earl H. Dowell (JA) 255
Erosion behavior in a simulated jet engine environment. T. Wakeman and W. Tabakoff (JA) 828
Optimization of a stiffened square panel subjected to compressive edge loads. Avinoam Libai (AIAA J, SYN) 1379
Optium design of laminated plates under axial compression. Yoichi Hirano (AIAA J, TN) 1017
Rotor blade stability in turbulent flows - part I. Y.K. Lin, Y. Fujimori, and S.T. Ariaratnam (AIAA J) 545
Rotor blade stability in turbulent flows - part II. Y. Fujimori, Y.K. Lin, and S.T. Ariaratnam (AIAA J) 673
Vibration techniques for definition of practical boundary conditions in stiffened shells. Josef Singer and Haim Abramovich (AIAA J) 762

Structural Statics

Application of brittle coatings to graphite fiber-reinforced plastics. R. Prabhakaran (AIAA J, TN) 110
Computational scheme for structural influence coefficients of certain planar wings. John Elliot Moore Jr. and Malcolm A. Cutchins (JA) 315
Effect of nonhomogeneity in orthotropic curved plates. Nicos M. Patsalides and Thomas J. Kim (AIAA J, TN) 1276
Elastic beams of various orders. James Ting-Shun Wang and John N. Dickson (AIAA J, TN) 535
Finite-element stress analysis of axisymmetric bodies under torsion. Tien-Yu Tsui (AIAA J, TN) 441
Methods of design sensitivity analysis in structural optimization. Jasbir S. Arora and Edward J. Haug (AIAA J) 970
On the accuracy of linear beam theory. R. Parnes (AIAA J, TN) 219

Thermal Stresses

Absence of bending effects on solar-receiver-tube fatigue. J. Jones (JE, TN) 187
Erosion behavior in a simulated jet engine environment. T. Wakeman and W. Tabakoff (JA) 828
Optimum design of structures at elevated temperatures. Howard M. Adelman, Patricia L. Sawyer, and Charles P. Shore (AIAA J) 622
Thermal stresses in a plasma-sprayed ceramic gas path seal. Christopher M. Taylor and Robert C. Bill (JA) 239

THERMOPHYSICS AND THERMOCHEMISTRY

Ablation, Pyrolysis, Thermal Decomposition and Degradation (including Refractories)

Aerothermodynamic environment for Jovian entry with silica heat shield. Michael J. Green and William E. Nicolet (PS, V.64) 108
Analysis of Jupiter probe heat-shield recession uncertainties. H.F. Nelson and S.A. Mezines (PS, V.64) 295
Combustion of ammonium perchlorate-aluminum mixtures. V.R. Pai Verneker, D. Seetharamacharyulu, and R.M. Mallya (JSR, EN) 436
Effect of transition metal oxides on decomposition and deflagration of composite solid propellant systems: a survey. K. Kishore and M.R. Sunitha (AIAA J, SP) 1118
Hydrogen-helium ablation of carbonaceous materials: numerical simulation and experiment. W.C. Davy, G.P. Menees, J.H. Lundell, and R.R. Dickey (PS, V.64) 228
Ignition and flamespreading phenomena in granular propellant gun charges. J.L. East Jr. (PS, V.66) 228
Irreversible thermodynamics model for graphite sublimation in radiation environments. R.L. Baker (PS, V.64) 210
Melting of solid bodies due to convective heating with the removal of melt. Anant Prasad (JSR, EN) 445
Monte Carlo statistical uncertainty analysis method for nose-tip recession predictions. M.M. Sherman and D.H. Smith (PS, V.64) 368
Pyrolysis model for an alpha waste incinerator prototype. D.I. Orloff (JE) 90
Response of heat-shield materials to intense laser radiation. J.H. Lundell and R.R. Dickey (PS, V.64) 193
Some effects of ablation on transport properties in the Jovian atmosphere. Louis Biolsi and Lawrence R. Wallace (PS, V.64) 65
Transient ablation of Teflon in intense radiative and convective environments. Norio Arai (AIAA J) 634
Transient thermal response of ablating bodies. Norio Arai and Keiichi Karashima (AIAA J) 191
Unique nozzle cover for the shuttle booster separation motors. J. Ray Dettling and Stan McIntyre (JSR) 361

Experimental Methods of Diagnostics

Application of digital Fourier analysis in processing dynamic aerodynamic heating measurements. Leroy M. Jenke (AIAA J, SYN) 641
Experiments with heliostats for central receiver power plants. John P. Thornton and David Waddington (JE) 69
Heat-transfer considerations in groovelike solar collectors. Hassan Nabavi and Richard B. Bannerot (PS, V.65) 229
Holography of solid propellant combustion. R.A. Briones and R.F. Wuerker (PS, V.63) 251
Ignition and flamespreading phenomena in granular propellant gun charges. J.L. East Jr. (PS, V.66) 228
Optical properties of bipropellant exhaust constituents condensed at 77 K. J.A. Roux, B.E. Wood, R.E. Alt, D.F. Frazine, A.M. Smith and H.E. Scott (JSR) 373
Research test techniques applied to gun interior ballistics. E.B. Fisher (PS, V.66) 281
Shock tube measurement of nitric oxide and atomic oxygen by chemiluminescent radiation. P.P. Ostrowski and E.K. Dabora (AIAA J) 898

Heat Conduction

Direct solutions for Sturm-Liouville systems with discontinuous coefficients. Dewey H. Hodges (AIAA J, TN) 924
Domestic hot water heating using hot air solar collectors. J.L. Loth (JE, TN) 377
Inverse problem for the solid cylinder. Murray Imber (AIAA J) 91
Melting of solid bodies due to convective heating with the removal of melt. Anant Prasad (JSR, EN) 445
Nonlinear heat transfer in planar solids: direct and inverse applications. Murray Imber (AIAA J) 204
Periodic heat transfer in radiating and convecting fins or fin arrays. Ralph G. Eslinger and Benjamin T.F. Chung (AIAA J) 1134
Statistical bounds for the effective thermal conductivity of microsphere and fibrous insulation. C.L. Tien and K. Vafai (PS, V.65) 135
Thermal contact conductance of dissimilar metals. R.R. Somers II, J.W. Miller, and L.S. Fletcher (PS, V.65) 149
Thermal resistance at smooth-sphere/rough-flat contacts: theoretical analysis. S.S. Burde and M.M. Yovanovich (PS, V.65) 83
Thermal resistance due to arbitrary dirichlet contacts on a half-space. G.E. Schneider (PS, V.65) 103
Thermal resistance of hollow spheres subjected to arbitrary flux over their poles. M.M. Yovanovich, G.E. Schneider, and C. H. Tien (PS, V.65) 120
Transient ablation of Teflon in intense radiative and convective environments. Norio Arai (AIAA J) 634
Transient heat conduction from buried underground radioactive nuclear waste. P.B. Wells and E.A. Bathke (JE) 227
Transient thermal response of ablating bodies. Norio Arai and Keiichi Karashima (AIAA J) 191

Heat Pipes

Augmenting the condenser heat-transfer performance of rotating heat pipes. P.J. Marto and L.L. Wagenseil (AIAA J) 647
Development of a liquid-trap heat pipe thermal diode. M. Groll, W.D. Münzel, W. Supper, and C.J. Savage (JSR) 195
Effect of thin film heat transfer on meniscus profile and capillary pressure. P.C. Wayner Jr. (AIAA J) 772
Entrainment limits in heat pipes. C.L. Tien and K.S. Chung (AIAA J) 643
Evaluation of commercially available spacecraft-type heat pipes. W.B. Kaufman and L.K. Tower (JSR) 98
Experiments with gravity-assisted heat pipes with and without circumferential grooves. Karl Thomas Feldman Jr. and Satish Munje (JE) 211
Fluid evaporation and boiling heat transfer in the grooves of thin-film evaporators. L.L. Vasiliev, A.N. Abramenko, and L.E. Kanonchik (AIAA J) 1395
Heat transfer in the heating zone of low-temperature heat pipes. V.I. Tolubinsky, V.A. Antonenko, Yu. N. Ostrovsky, and E.N. Shevchuk (AIAA J) 1390
Marangoni effect and capacity degradation in axially grooved heat pipes. James E. Eninger and B.D. Marcus (AIAA J, TN) 797
Nontracking moderately focusing heat pipe solar collector. Charles C. Roberts Jr. (JE, TN) 122
Performance evaluation of gravity-assisted copper-water heat pipes with liquid overfill. H. Nguyen Chi and A. Abhat (AIAA J) 1003
Vapor flow calculations in a flat-plate heat pipe. H. van Ooijen and C.J. Hoogendoorn (AIAA J) 1251
Variable-conductance heat pipe radiator for MAROTS-type communications spacecraft. C.J. Savage, B.G.M. Aalders, and H. Kreeb (JSR) 176

Radiation and Radiative Heat Transfer

Analytical studies on design optimization of movable louvers for space use. Masao Furukawa (JSR) 412
Approximate hemispherical radiative properties. D.C. Look (AIAA J, TN) 443
Approximate inviscid radiating flowfield analysis for outer planet entry probes. E.V. Zoby, K. Sutton, W.B. Olstad, and J.N. Moss (PS, V.64) 42
Development of a multipurpose radiometer. Reagan S. Redman and Calvin M. Wolff (JSR, EN) 350
Development of an afterbody radiative and convective heating code for outer planet probes. D.N. Brant and D.E. Nestler (PS, V.64) 345
Drag and heat-transfer characteristics of small longitudinally ribbed surfaces. M.J. Walsh and L.M. Weinstein (AIAA J, SYN) 770
Effect of atmospheric structure on radiative heating for Jupiter entry probe. K. Sutton, J.J. Jones, and R.W. Powell (PS, V.64) 3
Effects of precursor heating on chemical and radiative nonequilibrium viscous flow around a Jovian entry body. S.N. Tiwari and K.Y. Szema (PS, V.64) 129
Emittance of semi-infinite scattering medium with refractive index greater than unity. A.L. Crosbie (AIAA J, TN) 117
High-power laser coupling. R.B. Hall, W.E. Maher, D.B. Nichols, and D.J. Nelson (PS, V.65) 179
High-temperature solar photon engines. A.T. Mattick, A. Hertzberg, R. Decher, and C.V. Lau (JE) 30
Higher-order differential equations of radiative transfer: P_3 approximation. Yildiz Bayazitoğlu and James Higenyi (AIAA J) 424
Influence of precursor heating on viscous flow around a Jovian entry body. S.N. Tiwari and K.Y. Szema (PS, V.64) 80
Infrared reflectance and refractive index of condensed gas films on cryogenic mirrors. B.E. Wood and A.M. Smith (PS, V.65) 22
Irreversible thermodynamics model for graphite sublimation in radiation environments. R.L. Baker (PS, V.64) 210
Jupiter heat-shield configuration optimization. Ray B. Dirling Jr. and John D. Binder (PS, V.64) 321
Linearized analysis for longitudinal fins with radiative and convective exchange. T.J. Love and J.E. Francis (PS, V.65) 242
On the emissivity of alumina/aluminum composite particles. Thomas J. Rieger (JSR, EN) 438
Optically pumped carbon dioxide laser mixtures. Oktay Yesil and Walter H. Christiansen (JE) 315
Periodic heat transfer in radiating and convecting fins or fin arrays. Ralph G. Eslinger and Benjamin T.F. Chung (AIAA J) 1134
Pyrolysis model for an alpha waste incinerator prototype. D.I. Orloff (JE) 90
Radiation shape factors between end plane and outer wall of concentric tubular enclosures. C.P. Minning (AIAA J, TN) 1406
Radiative flux penetration through a blown shock layer for Jupiter entry conditions. James N. Moss, Jim J. Jones, and Ann L. Simmonds (PS, V.64) 22
Shape factors between coaxial annular disks separated by a solid cylinder. C.P. Minning (AIAA J, TN) 318
Solar reflectance of cryodeposits, Part I: H_2O on LN_2-cooled black paint. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 47
Solar reflectance of cryodeposits, Part II: CO_2 on black paint and stainless steel. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 66
Temperature distribution in louvered panels. Robert D. Karam (JSR) 92
Thermal analysis of a conical cathode of an MPD arc. R.C. Mehta (AIAA J, TN) 1272
Transient ablation of Teflon in intense radiative and convective environments. Norio Arai (AIAA J) 634
Two-dimensional radiative heat transfer in a planar layer bounded by nonisothermal walls. A.L. Crosbie and J.W. Koewing (AIAA J) 196
Use of matched pressure initial conditions for predicting low-altitude rocket plume radiation. B.E. Pearce and S.M. Dash (AIAA J, TN) 667
Weight of x-ray shields for interceptor missiles. Thomas L. Cost (JSR) 172

Thermal Control

Analytical studies on design optimization of movable louvers for space use. Massao Furukawa (JSR) 412
Development of a low-temperature phase change thermal capacitor. Leon Bledjian, J.R. Burden, and W.H. Hanna (PS, V.65) 255
Entrainment limits in heat pipes. C.L. Tien and K.S. Chung (AIAA J) 643
Experiments with gravity-assisted heat pipes with and without circumferential grooves. Karl Thomas Feldman Jr. and Satish Munje (JE) 211
Performance theory for hot air balloons. Karl Stefan (JA) 539
Reusable insulations systems for cryogenic Earth-based space vehicles. Irving E. Sumner and James R. Barber (PS, V.65) 275
Temperature control analysis and flight results for the Viking Orbiter 1975 Mars atmospheric water detector instrument. H.M. Kavanagh and F.L. Murphy (PS, V.65) 407
Thermal analysis of a high-energy propulsion system for a Rover class Mars orbiter. James W. Stultz (PS, V.65) 366
Thermal contact conductance of dissimilar metals. R.R. Somers II, J.W. Miller, and L.S. Fletcher (PS, V.65) 149
Thermal design and development of Pioneer Venus large probe. L.A. Hennis and M.N. Varon (PS, V.65) 425
Thermal radiative properties of solar sail film materials. W.M. Rowe, E.E. Luedke, and D.K. Edwards (PS, V.65) 3
Thermal resistance at smooth-sphere/rough-flat contacts: theoretical analysis. S.S. Burde and M.M. Yovanovich (PS, V.65) 83
Thermal studies for a solar sail space vehicle. L.D. Stimpson, M.L. Greenfield, W. Jaworski, and F. Wolf (PS, V.65) 388
Triple-point pressure evaporation of impacted droplets. James J. Rizza (JSR) 210

Thermal Modeling and Analysis

Adiabatic cycle analysis for the valved thermal compressor. A.P.M. Glassford (JE) 306
Aerodynamic heating to the X-24C hypersonic research configuration. R.D. Neumann, J.L. Patterson, and N.J. Sliski (PS, V.65) 192
Analysis of Jupiter probe heat-shield recession uncertainties. H.F. Nelson and S.A. Mezines (PS. V.64) 293
Design and test evaluation of a solid cryogen cooler insulation system. J.E. Ahern and T.W. Lawson (PS, V.65) 307
Effect of internal heat transport on the thermal migration of bubbles. John M. Papazian and Robert L. Kosson (AIAA J, TN) 1279
Effect of thin film heat transfer on meniscus profile and capillary pressure. P.C. Wayner Jr. (AIAA J) 772
Far-infrared properties of baffle coating materials. J.R. Grammer, W.H. Alff, M.D. Blue, and S. Perkowitz (PS, V.65) 39
Flat-plate solar collector design and sizing. John R. Howell (JE, TN) 379
Monte Carlo statistical uncertainty analysis method for nose-tip recession predictions. M.M. Sherman and D.H. Smith (PS, V.64) 368
New thermal network correction method by the statistical regression analysis. S. Shimoji and K. Oshima (PS, V.65) 344
Present capabilities and extension possibilities of the Spacelab thermal control system. E. Vallerani, P.L. Degli Esposti, and B. Sessions (JSR) 405
Radiation shape factors between end plane and outer wall of concentric tubular enclosures. C.P. Minning (AIAA J, TN) 1406
Shape factors between coaxial annular disks separated by a solid cylinder. C.P. Minning (AIAA J, TN) 318
Theoretical modeling of rapid surface vaporization with back pressure. Charles J. Knight (AIAA J) 519
Thermal analysis of a high-energy propulsion system for a Rover class Mars orbiter. James W. Stultz (PS, V.65) 366
Thermal analysis of some flat-plate solar collector designs for improving performance. D.L. Siebers and R. Viskanta (JE) 8
Thermal contact conductance of dissimilar metals. R.R. Somers II, J.W. Miller, and L.S. Fletcher (PS, V.65) 149
Thermal design and development of Pioneer Venus large probe. L.A. Hennis and M.N. Varon (PS, V.65) 425
Thermal resistance due to arbitrary dirichlet contacts on a half-space. G.E. Schneider (PS, V.65) 103
Transient heat conduction from buried underground radioactive nuclear waste. P.B. Wells and E.K. Bathke (JE) 227
Two-dimensional mathematical model of a nonbuoyant jet in a crossflow. Milorad Lj. Bojić and S. Eskinazi (AIAA J) 1050
Undisturbed heat-transfer data analyses on the space shuttle external tank barrel section. S.C. Praharaj (PS, V.65) 215

Thermal Surface Properties

Control of contamination in cryogenically cooled satellite telescopes. M. Murakami (JSR, SYN) 193
Cost-effective method for measuring contamination effects. Chang-Keng Liu and A.P.M. Glassford (JSR) 402
Effect of optical surface properties on high-temperature solar thermal energy conversion. L. Wen (JE) 82
Emittance of semi-infinite scattering medium with refractive index greater than unity. A.L. Crosbie (AIAA J, TN) 117
Far-infrared properties of baffle coating materials. J.R. Grammer, W.H. Alff, M.D. Blue, and S. Perkowitz (PS, V.65) 39
Infrared reflectance and refractive index of condensed gas films on cryogenic mirrors. B.E. Wood and A.M. Smith (PS, V.65) 22
Solar reflectance of cryodeposits, Part I: H_2O on LN_2-cooled black paint. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 47
Solar reflectance of cryodeposits, Part II: CO_2 on black paint and stainless steel. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 66

Thermochemistry and Chemical Kinetics

Approximate inviscid radiating flowfield analysis for outer planet entry probes. E.V. Zoby, K. Sutton, W.B. Olstad, and J.N. Moss (PS, V.64) 42
Combustion of ammonium perchlorate-aluminum mixtures. V.R. Pai Verneker. D. Seetharamacharyulu, and R.M. Mallya (JSR, EN) 436
Gun propellants. Ludwig Stiefel (PS, V.66) 307
Irreversible thermodynamics model for graphite sublimation in radiation environments. R.L. Baker (PS, V.64) 210
Production and analysis of thermal decomposition products from polymeric materials. D.A. Chatfield, I.N. Einhorn, F.D. Hileman, J.H. Futrell, and K.J. Voorhees (PS, V.63) 49
Shock tube measurement of nitric oxide and atomic oxygen by chemiluminescent radiation. P.P. Ostrowski and E.K. Dabora (AIAA J) 898
Solar energy storage using reversible hydration-dehydration of CaO-$Ca(OH)_2$. J.K. Rosemary, G.L. Bauerle, and T.H. Springer (JE, SYN) 321

Thermophysical Properties of Matter

Bubble behavior during solidification in low gravity. John M. Papazian, Robert Gutowski, and William R. Wilcox (AIAA J) 1111
Equations of state and thermodynamic data for interior ballistics calculations. E.G. Powell, G. Wilmot, L. Haar, and M. Klein (PS, V.66) 325
Far-infrared properties of baffle coating materials. J.R. Grammer, W.H. Alff, M.D. Blue, and S. Perkowitz (PS, V.65) 39
Hydrogen-helium ablation of carbonaceous materials: numerical simulation and experiment. W.C. Davy, G.P. Menees, J.H. Lundell, and R.R. Dickey (PS, V.64) 228
Infrared reflectance and refractive index of condensed gas films on cryogenic mirrors. B.E. Wood and A.M. Smith (PS, V.65) 22
On the emissivity of alumina/aluminum composite particles. Thomas J. Rieger (JSR, EN) 438
Optical properties of bipropellant exhaust constituents condensed at 77 K. J.A. Roux, B.E. Wood, R.E. Alt, D.F. Frazine, A.M. Smith, and H.E. Scott (JSR) 373
Screening of liquids for thermocapillary bubble movement. William R. Wilcox, R. Shankar Subramanian, John M. Papazian, Harry D. Smith, and Douglas M. Mattox (AIAA J, TN) 1022
Solar reflectance of cryodeposits, Part I: H_2O on LN_2-cooled black paint. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 47
Solar reflectance of cryodeposits, Part II: CO_2 on black paint and stainless steel. B.A. Seiber, A.M. Smith, B.E. Wood, and J.A. Roux (PS, V.65) 66
Some effects of ablation on transport properties in the Jovian atmosphere. Louis Biolsi and Lawrence R. Wallace (PS, V.64) 65
Statistical bounds for the effective thermal conductivity of microshphere and fibrous insulation. C.L. Tien and K. Vafai (PS, V.65) 135
Triple-point pressure evaporation of impacted droplets. James J. Rizza (JSR) 210

AUTHOR INDEX

Aalders, B.G.M. (JSR; see Savage, C.J.)
Abdallah, S. (JA, SYN; see Hamed, A.)
Abdel-Rahman, Tarek M. (JGC; see Hughes, Peter C.)
Abhat, A. (AIAA J; see Chi, H. Nguyen)
Abramenko, A.N. (AIAA J; see Vasiliev, L.L.)
Abramovich, Haim (AIAA J; see Singer, Josef)
Abzug, Malcolm J. Vector methods in homing guidance. (JGC, EN) 253
Acharya, M., Horstman, C.C., and Kussoy, M.I. Reynolds number effects on the turbulence field in compressible boundary layers. (AIAA J) 380
Adams, George F. (AIAA J, TC; see Nelson, Carl W.)
Adams, M.J. (JGC; see Diehl, R.E.)
Adams, Michael J. (PS, V.66; see Krier, Herman)
Adelman, Howard M., Sawyer, Patricia L, and Shore, Charles P. Optimum design of structures at elevated temperatures. (AIAA J) 622
Adler, D. and Baron A. Prediction of a three-dimensional circular turbulent jet in crossflow. (AIAA J) 168
Adrian, R.J. (AIAA J; see Jones, B.G.)
Ahern, J.E. and Lawson, T.W. Design and test evaluation of a solid cryogen cooler insulation system. (PS, V.65) 307
Ahluwalia, R.K. (JE; see Chiu, H.H.)
Ahrens, F.W. (JE; see Chiu, H.H.)
Akin, D.L. (JE, TN; see Miller, R.H.)
Alber, Irwin, E. (AIAA J; see Ausherman, Darrell R.)
Albrecht, R. (JA; see Radgowski, E.)
Alexander, Stephen G. (JGC; see Kaplan, Marshall H.)
Alff, W.H. (PS, V.65; see Grammer, J.R.)
Allums, Steve L. (JE; see Hastings, Leon J.)
Almroth, B.O. (JSR; see Ericsson, L.E.)
Alper, Marshall E. Photovoltaics and solar thermal conversion to electricity: status and prospects. (JE) 263
Alt, R.E. (JSR; see Roux, J.A.)
Altstatt, M. C. (JSR, SYN; see Dietz, W. E., Jr.)
Alvestad, Reidar (JH,ERR; see Brown, Samuel H.)
Aly, S. L., Simpson, R. B., and Hermance, C. E. Numerical solution of the two-dimensional premixed laminar flame equations. (AIAA J) 56
Anderson, J. B. (AIAA J; see Cattolica, R. J.)
Anderson, J.D. and Estabrook, F.B. Application of DSA spacecraft tracking technology to experimental gravitation. (JSR) 120
Anderson, J. D., Jr. (AIAA J; see Parthasarathy, K. N.)
Anderson, James L. (JA,EN; see Biter, Cleon J.)
Anderson, L. P., Jr. (PS,V.64; see Moore, G. R)
Anderson, Melvin S. and Stroud, W. Jefferson General panel sizing computer code and its application to composite structural panels. (AIAA J) 892
Anderson, Seth B. Historical overview of stall/spin characteristics of general aviation aircraft. (JA) 455
Anderson, Willard W., Groom, Nelson J., and Woolley, Charles T. Annular suspension and pointing system. (JGC) 367
Ando, Shigenori and Ichikawa, Akio Effect of forward acceleration on aerodynamic characteristics of wings. (AIAA J,TN) 653
Andrews, Angus Method of error budgeting of inertial navigation systems. (JGC,EN) 438
Andrews, Earl H., Jr. and Mackley, Ernest A Design, tests, and verification of a diffuser system for a Mach 4 scramjet test facility. (JA) 641
Andrews, James R. (PS,V.63; see Netzer, David W.)
Antani, D. L. (JA; see McMahon, H. M.)
Anthani, V. V. (JGC, SYN; see Apte, Y. S.)
Antonenko, V. A. (AIAA J; see Tolubinsky, V. I.)
Aoki, Yoshio (JA, SYN; see Shindo, Shojiro)
Apelt, Colin J. Characteristics of the split film sensor. (AIAA J, TN) 101
Apte, Y. S. and Athani, V. V. Optimal autostabilizer for a supersonic fighter aircraft. (JGC, SYN) 97
Arai, Norio Transient ablation of Teflon in intense radiative and convective environments. (AIAA J) 634
Arai, Norio and Karashima, Kei-ichi Transient thermal response of ablating bodies. (AIAA J) 191
Archer, Steven M. and Sworder, David D. Selection of the guidance variable for a re-entry vehicle. (JGC) 130
Ardema, Mark D. Linearization of the boundary-layer equations of the minimum time-to-climb problem. (JGC,EN) 434
Ariaratnam, S. T. (AIAA J; see Lin, Y. K.)
--(AIAA J,TN; see Fujimori,Y.)
Arndt, Roger E. A. (AIAA J,TN; see Yamamoto, Kingo)
Arora, Jasbir S. and Haug, Edward J. Methods of design sensitivity analysis in structural optimization. (AIAA J) 970
Ascani, Leonard and Lackman, Leslie Design-to-cost with advanced composites and advanced metallics. (JA) 714
Asfar, K. R., Mook, D. T., and Nayfeh, A. H. Application of the vortex-lattice technique to arbitrary bodies. (JA) 421
Asher, Robert B., Eller, Thomas J., Robinson, Stanley R., Shackelford, Mark D. A., and Tapley, Byron D. Mixed observable estimation of random thrust errors for solar electric propulsion spacecraft. (JGC) 49
Ashley, Holt (AIAA J; see Edwards, John W.)
Ashworth, B. R. and McKissick, B. T. Effects of helmet loader cues on simulator pilot performance. (JA) 787
Aston, Graeme and Kaufman, Harold R. Ion beam divergence characteristics of three-grid accelerator systems. (AIAA J) 64
Athani. V.V. (JGC,SYN; see Apte, Y.S.)
Ausherman, Darrell R., Alber, Irwin E., and Baum, Eric Acoustic suppression in a pulsed chemical laser. (AIAA J) 490
Austin, James W. and Leondes, Cornelius T. Method for designing approximate optimal controllers for nonlinear systems. (JGC, EN) 347
Avidor, Joel M. Improved free-vortex, subsonic aerodynamic window. (AIAA J, TN) 1267
Aydelott, J. C. (JSR; see Tegart, J. R.)
Azad, R. S. and Hummel, R. H. Similarities of turbulence structure in a conical diffuser with other wall-bounded flows. (AIAA J) 884
Azuma, Akira and Kawachi, Keiji Local momentum theory and its application to the rotary wing. (JA) 6
Backhus, D.R. (JA; see Iversen, J.D.)
Baer, Paul G. Practical interior ballistic analysis of guns. (PS,V.66) 37
Bailey, Cecil D. Comment on "Unconstrained variational statements for initial and boundary value problems." (AIAA J, RF) 541
Bailie, J. A. (JSR; see Ericsson, L. E.)
Baker, R. L. An irreversible thermodynamics model for graphite sublimation in radiation environments. (PS,V.64) 210
Balas, Mark J. Direct velocity feedback control of large space structures. (JGC,EN) 252
Ball, J. N. Rolling tail design and behavior as affected by actuator hinge moment limits. (JA) 527
Ballal, D. R. and Lefebvre, A. H. Combustion performance of gas turbine combustors burning alternative fuels. (JE) 50
Ballantyne, A. (AIAA J; see Reilly, J.P.)
Ballhaus, William F. (AIAA J; see Holst, Terry L.)
Banerjee, Sanjoy (AIAA J,TN; see Mulpuru, Sambasiva R.)
Banks, W. H. H. and Zaturska, M. B. Unsteady flow arising from rotating fluid above a fixed plane. (AIAA J, TN) 1263
Bannerot, Richard B. (PS,V.65; see Nabavi, Hassan)
Barber, James R. (PS, V.65; see Sumner, Irving E.)
Bareiss, L.E. Contamination design analysis approach for Spacelab. (JSR) 394
Bar Itzhack, Itzhack Y. (AIAA J, RF; see Baruch, Menahem)
Baron, A. (AIAA J; see Adler, D.)
Barra, V. (AIAA J; see Zakkay, V.)
Barron, Ronald M. and Wiley, J. Thomas Remarks on dusty hypersonic wedge flow. (AIAA J, TN) 317
Baruch, Menahem Selective optimal orthogonalization of measured modes. (AIAA J, TN) 120
Baruch, Menahem and Bar Itzhack, Itzhack Y. Reply by authors to A. Berman. (AIAA J, RF) 928
Bassiouni, M. R. and Dosanjh, D. S. Acoustic and flow characteristics of cold high-speed coaxial jets. (AIAA J) 153
Basu, B. C. (AIAA J, TN; see Chakrabartty, S. K.)
Bathke, E. A. (JE; see Wells, P. B.)
Battin, Richard H. and Fill, Thomas J. Extension of Gauss' method for the solution of Kepler's equation. (JGC) 190
Bauer, Andrew B. Dipole modeling and nondimensionalization of airframe noise. (JA) 398
Bauerle, G. L. (JE,SYN; see Rosemary, J. K.)
Baum, Eric (AIAA J; see Ausherman, Darrell R.)
Baumeister, Kenneth J. Evaluation of optimized multisectioned acoustic liners. (AIAA J) 1185
Bayazitoğlu, Yildiz and Higenyi, James Higher-order differential equations of radiative transfer: P_3 approximation. (AIAAJ) 424
Beck, C. E. (JA; see Myhre, S. H.)
Bednarz, Joseph (JSR; see Kaplan, Marshall H.)
Bejczy, Antal K. Smart sensors for smart hands. (PS,V.67) 275
Benet, Charles A. Flight experience with a near-optimal attitude control system. (JGC) 416
Bennett, J. C. Use of cylindrical hot films in unsteady flows. (AIAA J, TN) 215
BenReuven, Moshe and Summerfield, Martin Applicability of relative quickness as a precision measure of muzzle velocity. (PS,V.66) 246
Benz, H. F. (PS, V.67; see Snyder, W. E.)
Berg, D. E. Surface roughness effects on a Mach 6 turbulent boundary layer. (AIAA,J,SYN) 929
Bergey, Karl H. The Lancaster-Betz limit. (JE,TN) 382
Berglund, Carl (JSR; see Solman, F. John)

Bergmann, Edward V., Croopnick, S. R., Turkovich, J.J., and Work, C.C. An advanced spacecraft autopilot concept (JGC) 161
Berke, L. (AIAA J; see Khot, N.S.)
Berman, A. Comment on "Optimal weighted orthogonalization of measured modes." (AIAA J, RF) 927
Berman, Alex Mass matrix correction using an incomplete set of measured modes. (AIAA J, TN) 1147
Berman, Howard and Boudreau, Jean Dispersed fly-by-wire sensor system for improved combat survivability. (JGC) 463
Berreen, Terry and Sved, George Relative motion of particles in coplanar elliptic orbits. (JGC,EN) 443
Bertelrud, A. Experimental and computational investigation of a swept-wing flow at subsonic speeds. (JA) 742
Beser, Jacques Approach guidance logic for a tilt-rotor aircraft. (JGC) 528
Bezner, E. (JGC; see Shinar, J.)
Bilgen, E. (JE, TN; see Parachivoiu, I.)
Bill, Robert C. (JA; see Taylor, Christopher M.)
Billig, F. S. (JSR; see Waltrup, P. J.)
Billig, F. S., Crawford, L. J., and Gundersdorf, C. J. Advanced oceanographic instrumentation systems and measurements at St. Croix, U.S.V.I. (JH) 77
Binder, John D. (PA, V.64; see Dirling, Ray B.)
Binnie, W. Brian and Stengel, Robert F. Flight investigation and theory of direct side-force control. (JGC) 471
Biolsi, Louis and Wallace, Lawrence R. Some effects of ablation on transport properties in the Jovian atmosphere. (PS,V.64) 65
Bismarck-Nasr, Maher N. and Costa Savio, Hely R. Finite-element solution of the supersonic flutter of conical shells. (AIAA J, TN) 1148
Biter, Cleon J. and Anderson, James L. Estimating aircraft true airspeed using temperatures from two different probes. (JA,EN) 893
Blackwell, James A., Jr. Wind-tunnel blockage correction for two-dimensional transonic flow. (JA) 256
Blair, A.B., Jr., Sawyer, Wallace C., and Jackson, Charlie M., Jr. Ram-air-spoiler roll stabilization device for forward-control cruciform missiles. (JGC) 40
Blanchard, David L. "Smart" from a NEEDS perspective. (PS,V.67) 166
Blanchard, R. L. High-accuracy calibration of electrostatic gyro strapdown navigation systems. (JGC) 361
Bledjian, Leon, Burden, J. R., and Hanna, W. H. Development of a low-temperature phase change thermal capacitor. (PS,V.65) 255
Block, P. J. W. Assessment of airframe noise. (JA) 834
Bloor, M. I. G. and Evans, R. A. Use of vortex discretization in establishing weak shock diffraction patterns. (AIAA J) 1046
Blue, M. D. (PS, V.65; see Grammer, J. R.)
Bluford, Guion S., Jr. Numerical solution of the supersonic and hypersonic viscous flow around thin delta wings. (AIAA J) 942
Blume, Hans-Juergen C., Swift, Calvin T., and Kendall, Bruce M. Advanced systems requirements for ocean observations via microwave radiometers. (PS, V. 67) 89
Boasson, M (AIAA J, TN; see Weihs, D.)
Bogdonoff, Seymour M. (AIAA J; see Settles, Gary S.)
Boggs, T. L., Crump, J. E., Kraeutle, K. J., and Zurn, D. E. Cinephotomicrography and scanning electron microscopy as used to study solid propellant combustion. (PS, V. 63) 20
Bojic, Milorad Lj. and Eskinazi, S. Two-dimensional mathematical model of a nonbuoyant jet in a cross-flow. (AIAA J) 1050
Boles, Michael A. and Stockman, Norbert O. Use of experimental separation limits in the theoretical design of V/STOL inlets. (JA) 29
Boles, R. A. (JA; see Hackett, J. E.)
Booton, M. and Tennyson, R. C. Buckling of imperfect anisotropic circular cylinders under combined loading. (AIAA J) 278
Borin, S. M. (PS, V.63; see Mikheev, V. F.)
Borrello, S. R. (PS, V.67; see Chapman, R. A.)
Boudreau, A. H. Artificially induced boundary-layer transition on blunt-slender cones at hypersonic speeds. (JSR) 245
Boudreau, Jean (JGC; see Berman, Howard)
Bowers, Douglas L. Aerodynamic effects induced by a vectored high aspect ratio nonaxisymmetric exhaust nozzle. (JA) 515
Bowles, David F., Rollins, John P., and Hawks, Roger J. Parametric performance analysis of a Darrieus wind turbine system. (JE) 140
Bowles, Jeffrey V. (JA; see Conlon, John A.)
Boykin, W.H., Jr. (JGC; see Williams, D.T.)
Bracken, Jerome and Grotte, Jeffrey H. Required radar ranges for AEW aircraft. (JA) 792
Bradshaw, P. Singularities in unsteady boundary layers. (AIAA J, TN) 790
--(AIAA J; see Mahgoub, H.E.H.)
Brandon, Harold J., Britt, Allen H., and Dunavant, James C. Aerothermodynamic assessment of corrugated panel thermal protection systems. (PS, V.64) 387
Brant, D.N. and Nestler, D.E. Development of an afterbody radiative and convective heating code for outer planet probes. (PS, V.64) 354
Brashears, M.R. (JA; see Wilson, D.J.)
Breakwell, John V. (AIAA J; see Edwards, John W.)
--(JGC, TC; see Edwards, John W.)
Breckenridge, Roger A. and Husson, Charles Smart sensors in spacecraft: impact and trends. (PS, V.67) 3
Breidenthal, R. Chemically reacting, turbulent shear layer. (AIAA J, TN) 310
Bremer, Hartmut Dynamics of flexible hybrid structures. (JGC, EN) 86
Bressel, Ellen R. (AIAA J; see Shui, Ven H)
Breuhaus, W.O. Comment on "Flight test of stick force stability in attitude-stabilized aircraft." (JA, Tc) 639
Brickman, R.A. (JA; see Iversen, J.D.)
Brill, T.B. and Goetz, F. Laser Raman studies of solid oxidizer behavior. (PS, V.63) 3
Briones, R.A. and Wuerker, R.F. Holography of solid propellant combustion. (PS, V63) 251
Britt, Allen H. (PS, V.64; see Brandon, Harold J.)
Broucke, R. Traveling between the Lagrange points and the moon. (JGC) 257
Broussard, P.H., Jr. (JE; see Palowitch, E.R.)
Brown, D.P. (JGC; see Lloyd, K.H.)
Brown, R.S., Culick, F.E.C., and Zinn, B.T. Experimental methods for combustion admittance measurements. (PS, V.63) 191
Brown, Samuel H. and Alvestad, Reidar Simulation of maneuvering control during underway replenishments. (JH, ERR) 68
Brun, R. (AIAA J, TN; see Meolans, J.G.)
Brusch, Richard G. Constrained impulsive trajectory optimization for orbit-orbit transfer. (JGC) 204
Bryson, Arthur E., Jr. (JGC, TC; see Edwards, John W.)
Brzustowski, T.A., Twardus, E.M., Wojcicki, S., and Sobiesiak, A. Interaction of two burning fuel droplets of arbitrary size. (AIAA J) 1234
Buckley, T.J. (AIAA J, TN; see Muggeridge, D.B.)
Burde, S.S. and Yovanovich, M.M. Thermal resistance at smooth-sphere/rough-flat contacts: theoretical analysis. (PS, V.65) 83
Burden, J.R. (PS, V.65; see Bledjian, Leon)
Burggraf, Odus, R., Rizzetta, D., Werle, M.J., and Vatsa, V.N. Effect of Reynolds number on laminar separation of a supersonic stream. (AIAA J) 336
Burkhalter, J.E. (AIAA J, SYN; see Feldman, L.A.)
Burkhalter, John E. (AIAA J; see Purvis, James W.)
Bushnell, David Aiming an electromagnetic beam by bending segments of a large reflecting surface. (AIAA J) 413
--Control of surface configuration by application of concentrated loads. (AIAA J) 71
--Control of surface configuration of nonuniformly heated shells. (AIAA J)78
Bushnell, David and Skogh, Jorgen Mirror deformation for phase compensation of a thermally bloomed laser beam. (AIAA J) 288
Buss, D.D. (PS, V.67; see Chapman, R.A.)
Byers, David C. Electron bombardment thruster field and particle interfaces. (JSR, SP) 289
Byers, James L. (JA see Cotę Scott M.)
Byskov, Esben Applicability of an asymptotic expansion for elastic buckling problems with mode interaction. (AIAA J) 630
Calarese, Wladimiro and Wlaterick, Ronald E. Mass injection and jet flow simulation effects on transonic afterbody drag. (JA) 433
Calico, Robert A., Jr. A new look at $C_{N_{\beta,\,dyn}}$. (JA, EN)895
Calkins, D.E. Hydrodynamic analysis of a high-speed marine towed system. (JH) 10
Camp, Dennis W. (JA; see Frost, Walter)
Campbell, Richard L. (JA; see Mantay, Wayne R.)
Canavin, Joseph R. and Meirovitch, Leonard Eigensolution for large flexible spacecraft with singular gyroscopic matrices. (JGC, En) 88
Capone, F.J. (JA; see Willard, C.M.)
Cardani, C. and Mantegazza, P. Calculation of eignvalue and eignvector derivatives for algebraic flutter and divergence eigenproblems. (AIAA J) 408
Carrubba, R. V. (JE; see Flanagan, P.)
Caspar, J. R. (JE; see Dring, R.P.)
Cassady, P. E., Pindroth, A.L., and Newton, J.F. Performance potential of advanced GDL concepts. (AIAA J) 845
Castruccio, P.A. End-to-end design concept. (PS, V.67) 221
Catalano, G.D., Morton, J.B., and Humphris, R.R. Pressure and velocity measurements in a three-dimensional wall jet. (AIAA J, SYN) 332
Catherasoo, C.J. (AIAA J; see Koochesfahani, M.M.)
Cattolica, R.J., Gallagher, R.J., Anderson, J.B., and Talbot, L. Aerodynamic separation of gases by velocity slip in freejet expansions. (AIAA J) 344
Caughey, D.A. and Jameson, Antony Numerical calculation of transonic potention flow about wing-body combinations. (AIAA J) 175
Caveny, Leonard H. and Gany, Alon Breakup of Al/Al_2O_3 agglomerates in accelerating flowfields. (AIAA J) 1368
Caywood, W.C. (JSR; see Rubinstein, N.)
Cea, R.A. (JA; see Potonides, H.C.)
Cebeci, Tuncer and Chang K.C. Reply by authors to A.F. Mills. (AIAA J, TC) 221
Cebeci, Tuncer, Hirsh, R.S., and Whitelaw, J.H. On the calculation of laminar and turbulent boundary layers on longitudinally curved surfaces. (AIAA J, Tn) 434

Cebeci, Tuncer, Khalil, E.E., and Whitelaw, J.H. Calculation of separated boundary-layer flows. (AIAA J, SYN) 1291
Celentano, A. (AIAA J; see Lederman, S.)
Celmins, Aivars K. Mathematical modeling of recoilless rifle interior ballistics. (PS, V.66) 13
Cermak, J.E. Applications of wind tunnels to investigation of wind-engineering problems. (AIAA J, SP) 679
Cervantes, J.A. and Palazotto, A.N. Cutout reinforcement of stiffended cylindrical shells. (JA) 203
Chakrabartty, S.K. and Basu, B.C. Approximate analysis of strake wings at low speeds. (AIAA J, TN) 432
Chang, K.C. (AIAA J, TC; see Cebeci, Tuncer)
Chapman, Dean R. Computational aerodynamics development and outlook. (AIAA J, Dryden Lectureship in Research) 1293
Chapman, Gary T. (AIAA J; see Cook, William J.)
Chapman, R.A., Kinch, M.A., Borello, S.R., Simmons, A., Roberts, C.G., and Buss, D.D. HgCdTe charge-coupled devices. (PS, V.67) 424
Chatfield, D.A. Einhorn, I.N., Hileman, F.D., Futrell, J.H., and Voorhees, K.J. Production and analysis of thermal decomposition products from polymeric materials. (PS, V.63) 49
Chatterjee, Sailendra N. and Kulkarni, Satish V. Shear correction factors for laminated plates. (AIAA J, SYN) 498
Chen, Allen W. (AIAA J, TN; see Redhed, David D.)
Chen, C.P., Sajben, M., and Kroutil, J.C. Shock-wave oscillations in a transonic diffuser flow. (AIAA J) 1076
Chen, Imao (JA, EN; see Pierson, Bion L.)
Chen, J.C. Garba, J.A., and Day, F.D., III Voyager design and flight loads comparison. (JSR) 27
Chen, J.C. Garba, J.A., and Wada, B.K. Estimation of payload loads using rigid-body interface accelerations. (JSR) 74
Cheng, H.K. and Meng, S.Y. Lifting-line theory of oblique wings in transonic flows. (AIAA J, TN) 121
Chi, H. Nguyen and Abhat, A. Performance evaluation of gravity-assisted copper-water heat pipes with liquid overfill. (AIAA J) 1003
Chi, L.K. and Wen, Shih-Liang Solutions to higher-order boundary-layer equations for flow over a semi-infinite plate. (AIAA J, TN) 915
Chick, Richard W. (JSR; see Solman, F.John)
Chien, K.Y. (AIAA J, SYN; see Zien, T.-F.)
Chin, Leonard (JGC, EN; see Leondes, Cornelius T.)
Chin, Wilson, C. Kinematic wave approach to hydraulic jumps with waves. (JH) 120
--Some exact solutions to Guderley's equation. (AIAA J, TN) 438
--Stability of inviscid shear flow over flexible membranes. (AIAA J, TN) 665
--(AIAA J, TN; see Rizzetta, Donald P.)
Chiu, H.H., Rodgers, L.W., Saleem, Z.A., Ahluwalia, R.K., Kartsounes, G.T., and Ahrens, F.W. Mechanical energy storage systems: compressed air and underground pumped hydro. (JE) 131
Chopra, Inderjit (AIAA J, TN; see Johnson, Wayne)
Chow, W.L. (AIAA J, TN, see Liu, J.S.K.)
Christensen, Edward, J. and Williams Bobby G. Mars gravity field derived from Viking-1 and Viking-2: the navigation result. (JGC) 179
Christiansen, Walter H. (JE; see Yesil, Oktay)
Chung, Benjamin T.F. (AIAA J; see Eslinger, Ralph G.)
Chung, K.S. (AIAA J: see Tien, C.L.)
Ciffone, Donald L. and Pedley, Barbara Measured wake-vortex characteristics of aircraft in ground effect. (JA) 102
Clapworth, Gordon J. Singularity at the trailing edge of a swept wing. (AIAA J, TN) 313
Clark, J.A. (JE; see Wyatt, W.R.)
Clayton, B.R. and Massey, B.S. Exact similar solution for an axisymmetric laminar boundary layer on a circular cone. (AIAA J, TN) 785
Clement, Warren F. (JA; see Jewell, Wayne F.)
Clements, R.M. (AIAA J; see Oved, Y.)
Clifton, Brian J. (JSR; see Solman, F. John)
Coe, Charles, F. (JA; see Muhlstein, Lado, Jr.)
Cohen, G.C. (JGC; see Cotter, C.J.)
Coles, Donald and Wadcock, Alan J. Flying-hot-wire study of flow past an NACA 4412 airfoil at maximum lift. (AIAA J) 321
Coll, J.B. (AIAA J, TN; see Raghunathan, S.)
Comstock, F.L. and Uyttenhove, Hugo, J.J. Computer-implemented grading of flight simulator students. (JA) 780
Comte-Bellot, Geneviéve (AIAA J,; TN see Juvé, Daniel)
Condon, John A. and Bowles, Jefrey V. Application of advanced high-speed turboprop technology to civil short-haul transport aircraft. (JA) 680
Cook, William J., Presley, Leroy L., and Chapman, Gary T. Shock tube as a device for testing transonic airfoils at high Reynolds numbers. (AIAA J) 714
Cooley, Dale E. (JA; see Felt, L.R.)
Cooper, Basil P., Jr. Computational scheme for calculating the plume backflow region. (JSR, EN) 284
Corke, T.C. and Nagib, H.M. Large signal-to-noise technique for unsteady pressure measurements. (AIAA J, TN) 114
Corsiglia, V.R. (JA; see Iversen, J.D.)
Cost, Thomas L. Weight of x-ray shields for interceptor missiles. (JSR) 172
Costa, Savio, Hely R. (AIAA J, TN; see Bismarck-Nasr, Maher N.)
Cote Scott M. and Byers, James L. Operational environment of Naval aircraft gas turbines. (JA) 729
Cotter, C.J. and Cohen, G.C. Automatic rollout control of the 747 airplane. (JGC) 25
Couch, W. (JH; see Greszcuk, L.B.)
Covert, Eugene E. Hysteresis zone or locus—aerodynamics of bulbous based bodies at low speeds. (AIAA J,TN) 659
Craig, J.I. (JE; See Jeter, Sheldon)
Craven, C.E. (JA; see Wilson, D.J.)
Crawford, L.J. (JH; see Billig, F.S.)
Creswell, G.A. (JGC; see Ellis, J.F.)
Crites, R.C. (AIAA J, TN; see Sajben, M.)
Croll, Robert H. and Peterson, Carl W. A computer-controlled video instrument for wind-tunnel testing of lifting parachutes (JA) 269
Croopnick, S.R. (JGC; see Bergmann, Edward V.)
Crosbie, A.L. Emittance of semi-infinite scattering medium with refractive index greater than unity. (AIAA J, TN) 117
Crosbie, A.L. and Koewing, J.W. Two-dimensional radiative heat transfer in a planar layer bounded by nonisothermal walls. (AIAA J) 196
Crosby, Bill (JA; see Frost, Walter)
Crump, J.E. (PS, V.63; see Boggs, T.L.)
Cubbage, J.M. (JA; see Hunt, J.L.)
Cudahy, G.F., Van Kuren, J.T., and Wright, H.E. Degradation of a laser beam by a two-dimensional turbulent jet. (AIAA J) 1091
Culick, F.E.C. (PS, V.63; see Brown, R.S.)
Cunningham, E.P. Probability of crashing from Monte Carlo simulation. (JSR, EN) 348
Cunnington, G.R., Jr. (PS, V.65; see Parmley, R.T.)
Cutchins, M.A. (JA; see Moore, John Elliot, Jr.)
Cwynar, David J. (JGC; see Kaplan, Marshall H.)
--(JSR; see Kaplan, Marshall H.)
Dabora, E.K. (AIAA J; see Ostrowski, P.P.)
Dalton, Charles, JH; see Zedan, M.F.)
Daly, Kevin C., Gai, Eliezer, and Harrison, James V. Generalized likelihood test for FDI in redundant sensor configurations. (JGC) 9
D'Amario, L.A. and Stubbs, G.S. A new single-rotation-axis autopilot for rapid spacecraft attitude maneuvers. (JG) 339
D'Amico, W.P. In-flight measurements of the vibration history of spin-stabilized projectiles. (JSR, EN) 444
D'Amico, W.P. and Miller, M.C. Flight stability produced by a rapidly spinning, highly viscous liquid. (JSR, EN) 62
Dammann, R.E. (JE, EN; see Wedel, R.K.)
Dash, S.M. (AIAA J, TN; see Pearce, B.E.)
Dash, S.M., Wilmoth, R.G., and Pergament, H.S. Overlaid viscous/inviscid model for the prediction of near-field jet entrainment. (AIAA J) 950
Davis, H.O. Secondary bonding of carbon/carbon composites. (JSR) 432
Davis, R.T. (AIAA J; see Napolitano, M.)
--(AIAA J, TN; see Srivastava, B.N.)
Davis, S.J. (AIAA J, TN; see Rapagnani, N.L.)
Davis, Sanford S. (AIAA J, see Kadlec, Robert A.)
Davis, T.R. and Kuo, K.K. Experimental study of the combustion processes in granular propellant beds. (JSR) 203
Davy, W.C., Menees, G.P., Lundell, J.H., and Dickey, R.R. Hydrogen-helium ablation of carbonaceous materials: numerical simulation and experiment. (PS, V.64) 228
Day, F.D., III (JSR; see Chen, J.C.)
Daywitt, J. (AIAA J; see Salas, Manuel D.)
DeBra, Daniel B. Control technology challenges for gravitational physics experiments in space. (JGC) 147
--(JGC; see Pelka, Eugene J.)
Decher, R. (JE; see Mattick, A.T.)
Deckert, James C. (JGC; see Desai, Mukund N.)
DeHoff, Ronald L. Identification of a STOL propulsion plant model from flight data. (JGC) 235
Delattre, Michel M.G. Data acquisition and processing in a large aerodynamic test center. (JA) 141
Demetriades, Anthony (AIAA J: see Laderman, A.J.)
Deminet, C. (JSR; see Kenney, J.F.)
Denli, Nuray and Landweber, L. Thick axisymmetric turbulent boundary layer on a circular cylinder. (JH) 92
Desai, Mukund, N., Deckert, James C., and Deyst, John J., Jr. Dual-sensor failure identification using analytic redundancy. (JGC) 213
desJardins, Richard (PS, V.67; see Greene, Edward P.)
Desmarais, R.N. Accurate numerical evaluation of modified Struve functions occuring in unsteady aerodynamics. (JA) 441
Dettling, J. Ray and McIntyre, Stan Unique nozzle cover for the shuttle booster separation motors. (JSR) 361
Deyst, John J., Jr. (JGC; see Desai, Mukund N.)
Dickey, R.R. (PS, V.64; see Davy, W.C.)
--(PS, V.64; see Lundell, J.H.)
Dickson, John N. (AIAA J, TN; see Wang, James Ting-Shun)
Diehl, R.E. Adams, M.J., and Rinderle, E.A., Jr. Phobos encounter trajectory and maneuver design. (JGC) 123

Dietrich, D.A. (JA; see Keith, T.G.)
Dietz, W.E., Jr. and Altstatt, M.C. Experimental investigation of support interference on an ogive cylinder at high incidence. (JSR, SYN) 67
Dimatokis, P.E. (AIAA J; see Koochesfahani, M.M.)
Dirling, Ray B., Jr. and Binder, John D. Jupiter probe heat-shield configuration optimization. (PS, V.64) 321
Dix, R.E. (JA; see Maddox, A.R.)
Dodds, Willard J. (JE; see Mularz, Edward J.)
Dosanjh, D.S. (AIAA J; see Bassiouni, M.R.)
Dowell, Earl H. (JA; see Horikawa, Hidetsugu)
Driftmyer, R.T. (AIAA J, SYN; see Zien, T.-F.)
Dring, R.P., Caspar, J.R., and Suo, M. Particle trajectories in turbine cascades. (JE) 161
Drummond, J. Philip Numerical solution for perpendicular sonic hydrogen injection into a ducted supersonic airstream. (AIAA J, TN) 531
Dueck, Ernest G. (AIAA J; see Habashi, Wagdi G.)
Duffy, Thomas J. Concept to enhance strapdown navigation on MaRV's. (JGC, EN) 542
Dunavant, James C. (PS, V.64; see Brandon, Harold J.)
Dunsworth, L.C. and Reed, G.J. Ramjet engine testing and simulation techniques. (JSR) 382
Dvorak, F.A. (AIAA J; see Kind, R.J.)
Dvorak, F.A. and Kind, R.J. Analysis method for viscous flow over circulation-controlled airfoils. (JA) 23
Dwoyer, D.L., Lewis, Clark H., and Gogineni, P.R. Surface curvature effects on three-dimensional blunt-body boundary layers. (AIAA J, SYN) 133
Dwyer, H.A. (AIAA J; see Otey, G.R.)
Dyer, T. Michal Rayleigh scattering measurements of time-resolved concentration in a turbulent propane jet. (AIAA J, TN) 912
East, J.L., Jr. Ignition and flamespreading phenomena in granular propellant gun charges. (PS, V.66) 228
Eaton, L.R. and Neste, S.L. Optical motion control applied to the Atmospheric Cloud Physics Laboratory (ACPL). (AIAA J) 261
Eckert, William T. (JA; see Mort, Kenneth W.)
Eckhoff, N.D. (JE; see Shultis, J.K.)
Eckström, C.V. JA; see Murrow, H.N.)
Edelman, Raymond and Harsha, Philip T. Comment on "Centerline formulation in the numerical computation of axisymmetric flows" and "Conservation errors in axisymmetric finite difference equations." (AIAA J, RF) 1151
Edwards, D.K. (PS, V.65; see Rowe, W.M.)
Edwards, John W., Ashley, Holt, and Breakwell, John V. Unsteady aerodynamic modeling for arbitrary motions. (AIAA J) 365
Edwards, John W., Breakwell, John V., and Bryson, Arthur E., Jr. Reply by authors to R. Vepa. (JGC, TC) 447
Egan, William J., Jr. and Shadowen, James H. Design and verification of a turbofan swirl augmentor. (JA) 599
Ehlers, F.E., Epton, M.A., Johnson, F.T., Magnus, A.E., and Rubbert, P.E. Improved higher-order panel method for linearized supersonic flow. (AIAA J, SYN) 225
Eichblatt, D.L. (JA; see Romere, P.O.)
Einhorn, I.N. (PS, V.63; see Chatfield, D.A.)
El-Hawary, M.A. A modified one-equation model of turbulence for the calculation of free shear flows. (AIAA J, TN) 303
Elishakoff, Isaac and Stavsky, Yehuda Asymmetric vibrations of polar orthotropic laminated annular plates. (AIAA J) 507
Eller, Thomas J. (JGC; see Asher, Robert B.)
Ellis, J.F. and Creswell, G.A. Interferometric attitude determination with the global positioning system. (JGC) 522
Emanuel, George Comment on "Experimental determination of the discharge coefficients for critical flow through an axisymmetric nozzle." (AIAA J, TC) 125
Eninger, James E. and Marcus, B.D. Marangoni effect and capacity degradation in axially grooved heat pipes. (AIAA J, TN) 797
Eppler, Richard (JH; see Shen, Young T.)
Epstein, A.H., Kerrebrock, J.L., and Thompkins, W.T., Jr. Shock structure in transonic compressor rotors. (AIAA J) 375
Epton, M.A. (AIAA J, SYN; see Ehlers, F.E.)
Erickson, Gary E. Effect of spanwise blowing on the aerodynamic characteristics of the F-5E. (JA) 695
Ericsson, Lars E. Nonlinear hypersonic viscous crossflow effects on slender vehicle dynamics. (AIAA J) 586
Ericsson, L.E., Almroth, B.O., and Bailie, J.A. Hypersonic aerothermoelastic characteristics of a finned missile. (JSR) 187
Ericsson, Lars E. and Reding, J. Peter Criterion for vortex periodicity in cylinder wakes. (AIAA J, TN) 1012
Escudier, M.P. and Merkli, P. Observations of the oscillatory behavior of a confined ring vortex. (AIAA J) 253
Eskenazi, R. and Williams, D.S. Modular onboard adaptive imaging. (PS, V.67) 305
Eskinazi, S. (AIAA J; see Bojić, Milorad Lj.)
Eskinazi, S. and Goethals, R. Multiple pump stage loading of a variable-rpm wind turbine. (JE) 114
Eslinger, Ralph G. and Chung, Benjamin T.F. Periodic heat transfer in radiating and convecting fins or fin arrays. (AIAA J) 1134
Esposti, Degli P.L. (JSR; see Vallerani, E.)
Estabrook, F.B. (JSR; see Anderson, J.D.)
Evans, R.A. (AIAA J; see Bloor, M.I.G.)
Ewald, B. Development of electron beam welded, strain-gaged wind-tunnel balances. (JA) 349
Faeth, G.M. (JE; see Shearer, A.J.)
Fang, B.T. Satellite-to-satellite tracking orbit determination. (JGC) 57
Fang, J.G. (AIAA J; see Ventrice, M.B.)
Farmer, Moses G. (JA; see Hwang, Chintsun)
Farrenkopf, R.L. Optimal open-loop maneuver profiles for flexible spacecraft. (JGC) 491
Favier, Daniel, Rebont, Jean, and Maresca, Christian Large-amplitude fluctuations of velocity and incidence on an oscillating airfoil. (AIAA J, TN) 1265
Favin, Stanley (JH; see Schetz, Joseph A.)
Feldman, Karl Thomas, Jr. and Munje, Satish Experiments with gravity-assisted heat pipes with and without circumferential grooves. (JE) 211
Feldman, L.A. and Burkhalter, J.E. Numerical solutions of transient MHD phenomena. (AIAA J, SYN) 227
Felt, L.R., Huttsell, Lawrence J., Noll, Thomas E., and Cooley, Dale E. Aeroservoelastic encounters. (JA) 477
Fenn, J. B. (AIAA J, TC; see Tang, S.P.)
Ferman, M.A. and Unger, W.H. Fluid-structure interaction dynamics in aircraft fuel tanks. (JA) 885
Ferziger, J.H. (AIAA J; see McMillan, O.J.)
Fettis, Henry E. Bessel function evaluation of the clamped end bending moment of an impulsively loaded beam. (AIAA J, TN) 116
Fey, Wayne A. Stationkeeping at constant distance. (JGC, EN) 90
Figard, R.L. and Schetz, J.A. Studies of the aerodynamic performance of a 10 kW horizontal-axis windmill. (JE) 3
Fill, Thomas, J. (JGC; see Battin, Richard H.)
Fink, Martin R. Noise component method for airframe noise. (JA) 659
Fisher, E.B. Research test techniques applied to gun interior ballistics. (PS, V.66) 281
Fisher, H.D. Modal analysis of the transient asymmetric response of thin circular plates. (AIAA J, TN) 1274
Fitzgerald, Robert J. Shaping filters for disturbances with random starting times. (JGC, EN) 152
Fitzpatrick, Thomas J. (AIAA J; see Settles, Gary S.)
Flaggs, D.L. and Vinson, J.R. Shear properties of promising adhesives for bonded joints in composite material structures. (JA) 51
Flanagan, P., Norster, E.R., and Carrubba, R.V. Development of a gas turbine combustor utilizing a catalyst. (JE) 75
Flax, Alexander H. Comment on a "A comparison of different forms of dirigible equations of motion." (JGC, TC) 544
Fleeter, Sanford Aeroelasticity research for turbomachine applications. (JA) 320
Fleeter, Sanford and Riffel, Ronald E. Time-variant aerodynamics of oscillating airfoil surfaces in a supersonic flowfield. (AIAA J) 465
Fletcher, C.A.J. and Roberts, B.W. Electricity generation from jet-stream winds. (JE) 241
Fletcher, L.S. (PS, V.65; see Somers, R.R., II)
Foreman, Kenneth M. (JE; see Gilbert, Barry L.)
Forester, Clifford K. (AIAA J; see Roberts, Donald W.)
Foss, J.F. Measurements in a large-angle oblique jet impingement flow. (AIAA J,SYN) 801
Foster, Edwin P. (JA; see Storaasli, Olaf O.)
Foster, Winfred A., Jr. (JSR; see Sforzini, Richard H.)
Fox, John H. Simple recompression model for the Korst base pressure theory. (AIAA J, TN) 311
Francis, J.E. (PS, V.65; see Love, T.J.)
Francis, M.S. (AIAA J; see Keesee, J.E.)
Francis, M.S. Keesee, J.E., Lang, J.D., Sparks, G.W., Jr., and Sisson, G.E. Aerodynamics characteristics of an unsteady separated flow. (AIAA J) 1332
Francis, Michael S. and Kennedy, Donald A. Formation of a trailing vortex. (JA) 148
Frazine, D.F. (JSR; see Roux, J.A.)
French, J.R., Stuart, J.R., and Zeldin, B. New concepts for Mercury orbiter missions. (JSR) 35
Friedmann, P.P. (AIAA J; see Kottapalli, S.B.R.)
Frost, Walter, Crosby, Bill, and Camp, Dennis W. Flight through thunderstorm outflows. (JA) 749
Frost, Walter, Reddy, Ravi, Crosby, Bill, and Camp, Dennis W. C/STOL flight in wind disturbed by the presence of buildings. (JA) 856
Fuchs, Arthur J. and Pajerski, Rosemarna S. Role of autonomous satellite navigation in the NEEDS program. (PS, V.67) 233
Fujimori, Y. (AIAA J; see Lin, Y.K.)
Fujimori, Y., Lin, Y.K., and Ariaratnam, S.T. Rotor blade stability in turbulent flows — part II. (AIAA J) 673
Fung, K-Y. (AIAA J; see Sobieczky, H.)
Fung, Y.T., Liu, C.H., and Gunzburger, M.D. Simulation of the pressure field near a jet by randomly distributed vortex rings. (AIAA J) 553
Furukawa, Massao Analytical studies on design optimization of movable louvers for space use. (JSR) 412

Futrell, J.H. (PS, V.63; see Chatfield, D.A.)
Gad-el-Hak, Mohamed and Morton, J.B. Experiments on the diffusion of smoke in isotropic turbulent flow. (AIAA J) 558
Gai, Eliezer (JGC; see Daly, Kevin C.)
--(JGC; see Walker, Bruce K.)
Gallagher, R.J. (AIAA J; see Cattolica, R.J.)
Gany, Alon (AIAA J; see Caveny, Leonard H.)
Garba, J.A. (JSR; see Chen, J.C.)
Garg, Subhash Empirical simulation model for hydrazine attitude control thrusters. (JSR) 389
--Stability analysis of a flexible spacecraft with a sampled-data attitude sensor. (JGC) 169
Garg, S.C., Hughes, P.C., Millar, R.A. and Vigneron, F.R. Flight results on structural dynamics from Hermes. (JSR) 81
Gari, H.N. (JE, SYN; see Loehrke, J.C.)
Gatski, Thomas B. Sound production due to large-scale coherent structures. (AIAA J) 614
Geller, Edward W. Calculation of flow in the tail region of a body of revolution.(JH, EN) 127
George, A.R. and Kim, Y.N. High-altitude long-range sonic boom propagation. (JA, EN) 637
Gharib, M. (AIAA J; see Koochesfahani, M.M.)
Ghia, K.N., Hankey, W.L.,Jr., and Hodge, J.K. Use of primitive variables in the solution of incompressible Navier-Stokes equations. (AIAA J, TN) 298
Gilbert, Barry L. and Foreman, Kenneth M. Experimental demonstration of the diffuser-augmented wind turbine concept. (JE) 235
Gill, Georges S. (JSR; see Pouliquen, Marcel)
Glaser, J. (AIAA J; see Lederman, S.)
Glasgow, D.A. (AIAA J, TN; see Nelson, H.D.)
Glassford, A.P.M. (JSR; see Liu, Chang-Keng)
--Adiabatic cycle analysis for the valved thermal compressor. (JE) 306
Glaum, Fred (AIAA J, SYN; see Murphree, David L.)
Gleason, Clifford C. (JE; See Mularz, Edward J.)
Glick, Robert L. Temperature sensitivity and erosive burning. (JSR, EN) 58
Glickman, R. (JGC; see Spencer, T.M.)
Goethals, R. (JE; see Eskinazi, S.)
Goetz, F. (PS, V.63; see Brill, T.B.)
Gogineni, P.R. (AIAA J, SYN) see Dwoyer, D.L.)
Goka, T. (JGC; see Sorenson, J.A.)
Golden, Harvey and Neiers, James W. Sensor needs for agricultural applications. (PS, V.67) 27
Goldstein, Sidney Interior ballistic modeling applied to small-arms systems. (PS, V.66) 67
Gollahalli, S.R. (JA, EN; see Jahani, H.)
Gonard, R. (JSR; see Langlois, G.)
Good, W.D. (AIAA J, TN; see Smith, N.K.)
Gooden, K. (AIAA J; see Kind, R.J.)
Goodman, Theodore R. and Valentine Daniel T. Effect of hydrostatic pressure on underwater towed body cable configurations. (JH, EN) 131
Gopinath, R. and Murthy, A.V. Pressure gradient effects on laminar boundary layers at large Prandtl numbers. (AIAA J, SYN) 1153
Gordon, R.A., Mistretta, G.D., and Watson, J.S. A comparison of classical analytic theories for the motion of artificial satellites. (JGC) 184
Gottesdiener, L. Experimental study of flow near the trailing edge of a flat plate in rarefied gas. (AIAA J) 1159
Gough, P.S. Modeling of two-phase flow in guns. (PS, V.66) 176
Gough, P.S., and Zwarts, F.J. Modeling heterogeneous two-phase reacting flows. (AIAA J) 17
Gouldin, F.C. (AIAA J; see Smith, K.O.)
Grammer, J.R., Alff, W.H.,Blue, M.D., and Perkowitz, S. Far-infrared properties of baffle coating materials. (PS, V.65) 39
Graves, R.A., Jr. (PS, V.64; see Kumar, Ajay)
--(AIAA J; see Kumar, Ajay)
Gray, Robin B. (JA; see Raj, Pradeep)
Green, Michael J. and Nicolet, William E. Aerothermodynamic environment for Jovian entry with silica heat shield. (PS, V.64) 108
Greenberg, S.A. (JE,TN; see Wedel, R.K.)
Greene, Edward P. and desJardins, Richard Sensor data autonomy. (PS, V.67) 246
Greene, R.A. Airborne detection of low-level wind shear. (JA) 823
Greenfield, M.L. (PS, V.65; see Stimpson, L.D.)
Grems, E.G. (JE; see Jeter, Sheldon)
Greszcuk, L.B., Hawley, A.V., and Couch, W. Application of hybrid composites to hydrofoil structures. (JH) 105
Griggs, E.I. (JE; see Hewitt, H.C., Jr.)
Groll, M., Munzel, W.D., Supper, W., and Savage, C.J. Development of a liquid-trap heat pipe thermal diode. (JSR) 195
Groom, Nelson J. (JGC; see Anderson, Willard W.)
--(JGC, EN; see Joshi, Suresh M.)
Grossman, Bernard Numerical procedure for the computation of irrotational conical flows. (AIAA J) 828
--(AIAA J, TN; see Keyfitz, Barbara)
Grossman, R.L. (JA; see Schnell, W.C.)
Grotte, Jeffrey H. (JA; see Bracken, Jerome)
Grubin, Carl Quaternion singularity revisited. (JGC, EN) 255
Guienne, P.F. The 260-ton French amphibious hovercraft—Naviplane N 500. (JH) 33
Gundersdorf, C.J. (JH; see Billig, F.S.)
Gunnarson, Daniel W. and McArdle, Jack C. Inlet and duct for the QSRA boundary-layer control system. (JA) 303
Gunzburger, M.D. (AIAA J; see Fung, Y.T.)
Gupta, M.M. (JGC; see Nikiforuk, P.N.)
--(JGC; see Ohta, H.)
Gupta, Narendra K. and Hall, W. Earl, Jr. System identification technology for estimating re-entry vehicle aerodynamic coefficients. (JGC) 139
Gur, I., Shinar, J., and Rom, J. Prediction of roll controllability of slender cruciform canard configurations. (JSR) 238
Gutman, Shaul On optimal guidance for homing missiles. (JGC) 296
Gutowski, Robert (AIAA J; see Papazian, John M.)
Haar, L. (PS, V.66; see Powell,E. G.)
Habashi, Wagdi G., Dueck, Ernest G., and Kenny, David P. Finite-element approach to compressor blade-to-blade cascade analysis. (AIAA J) 693
Hackett, J.E. and Boles, R.A. Moving-ground simulation by tangential blowing. (JA) 803
Hafez, M., South, J., and Murman, E. Artificial compressibility methods for numerical solutions of transonic full potential equation. (AIAA J) 838
Haftka, Raphael T. (JA; see Starnes, James H., Jr.)
Hague, D.S. and Levin, Alan D. High performance dash-on-warning air mobile missile system. (JA) 551
Hahn, H.T. (AIAA J; see Witt, W.P., III)
Hale, Francis J. and Steiger, Arthur R. Effect of wind on aircraft cruise performance. (JA) 382
Hall, Dennis R. Reply by author to N.H. Kemp. (AIAA J, RF) 446
Hall, R.B., Maher, W.E., Nichols, D.B., and Nelson, D.J. High-power laser coupling. (PS, V.65) 179
Hall, W. Earl, Jr. (JGC; see Gupta, Narendra K.)
Halsey, N.D. Potential flow analysis of multielement airfoils using conformal mapping. (AIAA J) 1281
Hamed, A. and Abdallah, S. Streamlike function: a new concept in flow problems formulation. (JA, SYN) 801
Hammond, E.F., Jr., Neff, W.S., and Shilling, W.J. A 2.5-MVA high-voltage lightweight generator. (JA) 55
Hanagud, S. and Uppaluri, B. Reusable solid rocket motor case: optimum probabilistic fracture control. (JSR) 147
Hankey, W.L., Jr. (AIAA J, TN; see Ghia, K.N.)
Hankey, W.L. (AIAA J; see Shang, J.S.)
Hanna, W.H. (PS, V.65; see Bledjian, Leon)
Hara, Takehisa and Umoto, Juro Three-dimensional effects of electrode configuration on diagonal MHD generator performance. (JE) 16
Harris, Christopher F. (JE, TN; see Myerson, Allan S.)
Harris, Robert B. and Rickard, William W. Active control transport design criteria. (JA, SYN) 737
Harrison, James V. (JGC; see Daly, Kevin C.)
Harsha, Philip T. (AIAA J, RF; see Edelman, Raymond)
Hastings, Leon J. and Allums, Steve L. Performance characteristics of a 1.8 x 3.7 m Fresnel lens solar concentrator. (JE, SYN) 65
Haug, Edward J. (AIAA J; see Arora, Jasbir S.)
Haviland, J.K. and Herling, W.W. Scaling of fluctuating pressures in jet impingement. (JA) 182
Hawks, Roger J. (JE; see Bowles, David F.)
Hawley, A.V. (JH; see Greszcuk, L.B.)
Hayes, Richard M. "Smart" remote sensor needs for U.S. Coast Guard ocean environment missions. (PS, V.67)
Hazelrigg, George A., Jr. Comment on "SPS cost considerations." (JE, TC) 125
Hazelrigg, George A., Jr. and Lietzke, Keith R. Research and development and the price of oil. (JE) 349
Hearn, H.C. Effect of internal physical change on catalytic thruster performance. (JSR) 343
Heber, Charles E. (JH; see Wilson, Robert A.)
Heffley,Robert K. (JA; see Jewell, Wayne F.)
Hegemier, G. (JH; see Nair, S.)
Heiney, Otto K. Ballistics applied to rapid-fire guns. (PS, V.66) 87
Heinrich, Juan C. and Marshall, Robert S. Penalty function solution of steady-state Navier-Stokes equations. (AIAA J, TN) 789
Heller, R.A., Kamat, M.P., and Singh, M.P. Probability of solid-propellant motor failure due to environmental temperatures. (JSR) 140
Helms, Vernon T., III Measuring flow angle and mass flow rate in an unknown flowfield. (JSR) 20
Hennis, L.A. and Varon, M.N. Thermal design and development of Pioneer Venus large probe. (PS, V.65) 425
Heppenheimer, T.A. Lunar material transports: comparison of modes employing achromatic trajectories. (JSR, EN) 60
Herling, W.W. (JA; see Haviland, J.K.)
Hermance, C.E. (AIAA J; see Aly, S.L.)
Hermesh, R., Katzir, S., and Kreindler, E. Optimal thrust for maximal rocket turn. (JGC) 301
Hertzberg, A. (JE; see Mattick, A.T.)
Hess, Ronald A. A rationale for human operator pulsive control behavior. (JGC) 221

Hewitt, H.C., Jr. and Griggs, E.I. Method to determine an optimal air-flow rate in solar collectors. (JE) 357
Higenyi, James (AIAA J; see Bayazitoglu, Yildiz)
Higuchi, Hiroshi and Rubesin, Morris W. Behavior of a turbulent boundary layer subjected to sudden transverse strain. (AIAA J) 931
Hileman, F.D. (PS, V.63; see Chatfield, D.A.)
Hiley, P.E., Kitzmiller, D.E., and Willard C.M. Installed performance of vectoring/reversing nonaxisymmetric nozzles. (JA) 532
Hill, Eugene G. (JA, SYN; see Shindo, Shojiro)
Hinchey, M.J., and Sullivan, P.A. Duct effects on the dynamic fan characteristics of air cushion systems. (JH, EN) 28
Hines, R. (JSR; see Siegelman, D.)
Hirano, Yoichi Optimum design of laminated plates under axial compression. (AIAA J, TN) 1017
Hirsh, R.S. (AIAA J, TN; see Cebeci, Tuncer)
Hodapp, Albert E., Jr. (JSR; see Rollstin, Larry R.)
Hodge, J.K. (AIAA J, TN; see Ghia, K.N.)
Hodge, James K., Stone, Alan L., and Miller, Thomas E. Numerical solution for airfoils near stall in optimized boundary-fitted curvilinear coordinates. (AIAA J) 458
Hodges, Dewey H. A theoretical technique for analyzing aeroelastic stability of bearingless rotors. (AIAA J) 400
--Direct solutions for Sturm-Liouville systems with discontinuous coefficients. (AIAA J, TN) 924
Hokenson, Gustave Transport physics and mathematical characteristics. (AIAA J, TN) 781
Holst, Terry L. Implicit algorithm for the conservative transonic full-potential equation using an arbitrary mesh. (AIAA J) 1038
Holst, Terry L. and Ballhaus, William F. Fast conservative schemes for the full potential equation applied to transonic flows. (AIAA J) 145
Holzer, J.C. (JE, SYN; Loehrke, J.C.)
Hoogendoorn, C.J. (AIAA J; see van Ooijen, H.)
Hooke, Frederick H. A new look at structural reliability and risk theory. (AIAA J) 980
Hookway, R.O. (JGC, EN, see Pretty, J.R.)
Hopenfeld, J. Simplified correlations for prediction of NO_x emissions from MHD power plants. (JE) 335
Horikawa, Hidetsugu and Dowell, Earl H. An elementary explanation of the flutter mechanism with active feedback controls. (JA) 225
Horst, Albert W. (PS, V.66; see May, Ingo W.)
Horstman, C.C. (AIAA J; see Acharya, M.)
--(AIAA J; see Viegas, J.R.)
Horstman, C.C. and Hung, C.M. Computation of three-dimensional turbulent separated flows at supersonic speeds. (AIAA J, SYN) 1155
Hotovy, Steven G. (AIAA J, TN; see Redhed, David D.)
Howell, John R. Flat-plate solar collector design and sizing. (JE, TN) 379
Howes, D.B. (JA; see Romere, P.O.)
Howle, William M., Jr., and Kelly, W. Lane, IV Information adaptive system of NEEDS. (PS, V.67) 213
Hsu, C.T. Comment on "Wind power limitations associated with vortices." (JE,TC) 127
Hsu, P.W. (JSR; see Pagano, N.J.)
Huang, Ju-chin (AIAA J, TN; see Nopratvarakorn, Vichien)
Hubbartt, James E. Study of a vortex augmentor for wind-powered turbine. (JE) 344
--(AIAA J, TN; see Neale, D.H.)
Huck, Friedrich O. and Park, Stephen K. Multispectral data acquisition and classification: statistical models for system design. (PS, V.67) 490
Hughes, P.C. (JSR; see Garg, S.C.)
Hughes, Peter C. and Abdel-Rahman, Tarek M. Stability of proportional-plus-derivative-plus-integral control of flexible spacecraft. (JGC) 499
Hull, David G. and Williamson, Walton E. Numerical derivatives for parameter optimization. (JGC, EN) 158
Hummel, R.H. (AIAA J; see Azad, R.S.)
Humphris, R.R. (AIAA J, SYN; see Catalano, G.D.)
Hung, C.M. (AIAA J, SYN; see Horstman, C.C.)
Hunt, J.L., Lawing, P.L., Marcum, D.C., and Cubbage, J.M. Performance potential and research needs of a hypersonic, air-breathing, lifting missile concept. (JA) 666
Hurban, John M. (PS, V.66; see Watermeier, Leland A.)
Husain, Z.D. and Hussain, A.K.M.F. Axisymmetric mixing layer: influence of the initial and boundary conditions. (AIAA J) 48
Hussain, A.K.M.F. (AIAA J; see Husain, Z.D.)
Husson, Charles (PS, V.67; see Breckenridge, Roger A.)
Huttsell, L.J. (JA; see Noll, Thomas E.)
--(JA; see Felt, Larry R.)
Hwang, Chintsun and Pi, W.S. Aircraft wake flow and horizontal tail buffet. (JA, EN) 282
--Some observations on the mechanism of aircraft wing rock. (JA) 366
Hwang, Chintsun, Winther, Bertil A., Mills, George R., Noll, Thomas E., and Farmer, Moses G. Demonstration of aircraft wing/store flutter suppression systems. (JA) 557
Ichikawa, Akio (AIAA J, TN; see Ando, Shigenori)
Ikawa, Hideo Real gas laminar boundary-layer separation prediction methodology. (AIAA J, SYN) 1157
Iliff, Kenneth and Maine, Richard E. Observations on maximum likelihood estimation of aerodynamic characteristics from flight data. (JGC) 228
--(JA; see Maine, Richard E.)
Imber, Murray Inverse problem for the solid cylinder. (AIAA J) 91
--Nonlinear heat transfer in planar solids: direct and inverse applications. (AIAA J) 204
Imbert, M. (AIAA J; see Zeitoun, D.)
Inger, G.R. Transonic shock-boundary-layer interactions in cryogenic wind tunnels. (JA, EN) 284
Isogai, Koji On the transonic-dip mechanism of flutter of a sweptback wing. (AIAA J, TN) 793
Isopi, R. New solid propellant for European apogee boost motor. (JSR, SYN) 355
Iversen, J.D., Corsiglia, V.R., Park, S., Backhus, D.R., and Brickman, R.A. Hot-wire, laser-anemometer, and force measurements of interacting trailing vortices. (JA) 448
Ives, David C. and Liutermoza, John F. Second-order-accurate calculation of transonic flow over turbomachinery cascades. (AIAA J) 870
Jackson, Charlie M., Jr. (JGC; see Blair, A.B., Jr.)
Jahani, H. and Gollahalli, S.R. Burning sprays of jet A fuel-water emulsions. (JA, EN) 798
Jain, S.R., Krishna, P.M.M., and Pai Verneker, V.R. Hypergolic ignition of various hydrazones with nitric acid. (JSR) 69
James, William D. (JA; see Olson, Lawrence E.)
Jameson, Antony (AIAA J; see Caughey, D.A.)
Jarman, John W. (PS, V.67; see Murphy, Lawrence P.)
Jaworski, W. (PS, V.65; see Stimpson, L.D.)
Jenke, Leroy M. Application of digital Fourier analysis in processing dynamic aerodynamic heating measurements. (AIAA J, SYN) 641
Jenkins, Marion K. (JE; see Nakamura, Takashi)
Jeter, Sheldon, Craig, J.I., and Grems, E.G. Orientation studies for single-axis concentrating collectors. (JE) 151
Jewell, N.T. (PS, V.63; see Smart, A.E.)
Jewell, Wayne F., Heffley, Robert K., Clement, Warren F., and West, Thomas C. Powered-lift aircraft handling qualities in presence of atmospheric disturbances. (JA) 388
Jobe, Charles E., Kulfan, Robert M., and Vachal, John D. Application of laminar flow control to large military transports. (JA) 170
--Wing planforms for large military transports. (JA) 425
Jobson, Daniel J. Onboard compensation for temporal changes in pushbroom scanner detector arrays. (PS, V.67) 481
Johnson, B.V. (JE; see Suo, M.)
Johnson, D.A. (AIAA J; see Modarress, D.)
--(JA; see Owen, F.K.)
Johnson, E.S. (JA; see Rowe, W.T.)
Johnson, F.T. (AIAA J, SYN; see Ehlers, F.E.)
Johnson, Gordon R. Dynamic response of axisymmetric solids subjected to impact and spin. (AIAA J) 975
Johnson, Wayne and Chopra, Inderjit Calculated hovering helicopter flight dynamics with a circulation-controlled rotor. (JA) 124
Johnston, W. and Sockol, P. Matching procedure for viscous-inviscid interactive calculations. (AIAA J, TN) 661
Jones, B. (PS, V.63; see Smart, A.E.)
Jones, B.G., Adrian, R.J., Nithianandan, C.K., and Planchon, H.P., Jr. Spectra of turbulent static pressure fluctuations in jet mixing layers. (AIAA J) 449
Jones, E. (AIAA J; see Parthasarathy, K.N.)
Jones, J. Absence of bending effects on solar-receiver-tube fatigue. (JE, TN) 187
Jones, J. J. (PS, V.64; see Sutton, K.)
--(PS, V.64; see Moss, James N.)
Jordan, A.J. (JA; see Wilson, D.J.)
Joshi, Suresh M. and Groom, Nelson J. Stability bounds for the control of large space structures. (JGC) 349
Juhasz, Arpad A. and Price, Channon F. The closed bomb technique for burning rate measurement at high pressure. (PS, V.63) 129
Juvé, Daniel, Sunyach, Michel, and Comte-Bellot, Geneviéve Filtered azimuthal correlations in the acoustic far field of a subsonic jet. (AIAA J, TN) 112
Kadlec, Robert A. and Davis, Sanford S. Visualization of quasiperiodic flows. (AIAA J) 1164
Kamat, Manohar P. (JSR; see Heller, R.A.)
Kamat, Manohar P. and Knight, Norman F., Jr. Nonlinear transient analysis via energy minimization. (AIAA J, SYN) 968
Kanonchik, L.E. (AIAA J; see Vasiliev, L.L.)
Kanury, A. Murty Methods of measurements in destructive fires. (PS, V.63) 279
Kanzawa, A. (AIAA J; see Suzuki, M.)
Kaplan, Marshall H., Cwynar, David J., and Alexander, Stephen G. Simulation of Skylab orbit decay and attitude dynamics. (JGC) 511
Kaplan, Marshall H., Cwynar, David J., and Bednarz, Joseph A nuclear-powered communications satellite for the 1980's. (JSR) 268

Karam, Robert D. Temperature distribution in louvered panels. (JSR) 92
Karashima, Kei-ichi (AIAA J; see Arai,Norio)
Karlsson, K.R. and Sedin, Y.C.-J. Axisymmetric calculations of transonic wind tunnel interference in slotted test sections. (AIAA J, TN) 917
Kartsounes, G.T. (JE; see Chiu, H.H.)
Kato, Kanichiro, Mihara, Shoichiro, and Nakamura, Hidetoshi The role of the backside parameter in height control. (JGC) 241
Kato, Kanichiro and Yamane, Takashi A calculation of rotor impedance for hovering articulated-rotor helicopters (JA) 15
--Calculation of rotor impedance for articulated rotor helicopters in forward flight. (JA) 470
--Numerical prediction of typical articulated rotor impedance. (JA, SYN) 417
Katz, I. (JSR; see Parks, D.E.)
Katz, J. Method for calculating wing loading during maneuvering flight along a three-dimensional curved path. (JA) 739
Katzir, S. (JGC; see Hermesh, R.)
Kaufman, Harold R. (JSR; see Wilbur, Paul J.)
--(AIAA J; see Aston, Graeme)
Kaufman, W.B. and Tower, L.K. Evaluation of commercially available spacecraft-type heat pipes. (JSR) 98
Kavanagh, H.M. and Murphy, F.L. Temperature control analysis and flight results for the Viking Orbiter 1975 Mars atmospheric water detector instrument. (PS V.65) 407
Kawachi, Keiji (JA; see Azuma, Akira)
Kaza, K.R.V. and Kvaternik, R.G. Examination of the flap-lag stability of rigid articulated roter blades. (JA) 876
Keese, David L. Zero-pressure balloon design. (AIAA J) 12
Keesee, J.E. (AIAA J; see Francis, M.S.)
Keesee, J.E., Francis, M.S., and Lang, J.D. Technique for vorticity measurement in unsteady flow. (AIAA J) 387
Keith, T.G., Jr., Obee, T.N., and Dietrich, D.A. Total pressure recovery of flared fan nozzles used as inlets. (JA) 110
Kelly, W. Lane, IV (PS, V.67; see Howle, William M., Jr.)
Kemp, Nelson H. Comment on "Hypersonic free molecular heating of micron size particulate." (AIAA J, RF) 445
Kemp, Nelson H. and Root, Robert G. Analytical study of laser-supported combustion waves in hydrogen. (JE) 40
--Nozzle flow in a laser-heated hydrogen rocket. (JSR, SYN) 65
Kendall, Bruce M. (PS, V.67; see Blume, Hans-Juergen C.)
Kennedy, Donald A. (JA; see Francis, Michael S.)
Kenney, J.F. and Deminet, C. Low-pressure diffusion bonding of titanium. (JSR) 88
Kenny, David P. (AIAA J; see Habashi, Wagdi G.)
Kerrebrock, J.L. (AIAA J; see Epstein, A.H.)
Keskar, Dinesh A. (JA; see Queijo, M.J.)
Keskar, Dinesh A. and Slater, Gary L. Load factor response of digitally controlled aircraft. (JGC) 247
Keyfitz, Barbara L., Melnik, Robert E., and Grossman, Bernard Leading-edge singularity in transonic small-disturbance theory: numerical resolution. (AIAA J, TN) 296
Khalil, E.E. (AIAA J, SYN; see Cebeci, Tuncer)
Khan, M.R., Willmert, K.D., and Thornton, W.A. An optimality criterion method for large-scale structures. (AIAA J) 753
Khot, N.S., Berke, L., and Venkayya, V.B. Comparison of optimality criteria algorithms for minimum weight design of structures. (AIAA J) 182
Kibler, James F. (PS, V.67; see Young, George R.)
Kim, B.S.C. A shock-tube investigation of heat transfer in the base region of a slender cone-hemisphere. (PS, V.64) 278
Kim, Byoung Sung and Moon, Francis Impact induced stress waves in an anisotropic plate. (AIAA J) 1126
Kim, Thomas J. (AIAA J, TN; see Patsalides, Nicos M.)
Kim, Y.N. (JA, EN; see George, A.R.)
Kinch, M.A. (PS, V.67; see Chapman, R.A.)
Kind, R.J. (JA; see Dvorak, F.A.)
Kind, R.J., Gooden, K., and Dvorak, F.A. Measurements of flows with tangential injection and comparison with prediction methods. (AIAA J) 730
King, H.M. (PS, V.65; see Leggett, H.)
King, Merrill K. Erosive burning of composite solid propellants: experimental and modeling studies. (JSR) 154
King, William S. Estimates of critical Reynolds number for a heated flat plate in water. (JH, EN) 125
Kirchner, Robert D. Comment on "Wall shear stress measurements in a shock-wave boundary-layer interaction." (AIAA J, RF) 670
Kishore, K. Comprehensive view of the combustion models of composite solid propellants. (AIAA J, SP) 1216
Kishore, K. and Sunitha, M.R. Effect of transition metal oxides on decomposition and deflagration of composite solid propellant systems: a survey. (AIAA J, SP) 1118
Kitzmiller, D.E. (JA; see Hiley, P.E.)
Kivel, Bennett (AIAA J; see Shui, Ven H.)
Klapp, A.J. Automated ship routing. (JH) 5
Klein, M. (PS, V.66; see Powell,E. G.)
Klich, Phillip J. (JSR; see Rehder, John J.)
Klimas, Paul C. Inflating parachute canopy differential pressures. (JA) 861
Knight, Charles J. Theoretical modeling of rapid surface vaporization with back pressure. (AIAA J) 519
--(AIAA J, TN; see Tong, Kwok-On)
Knight, Norman F., Jr. (AIAA J; see Kamat, Manohar P.)
Knuth, Eldon L. (AIAA J; see Liu, Shih-Min)
Kobayakawa, Makoto (JA; see Okubo, Hiroshi)
Koch, T.L. (PS, V.67; see Thom, R.D.)
Koewing, J.W. (AIAA J; see Crosbie, A.L.)
Kohlman, David L. Flight test results for an advanced technology light airplane. (JA) 250
Konarski, M. (JA; see Willard, C.M.)
Koncsek, J.L. (JA; see Shaw, R.J.)
Koochesfahani, M.M., Catherasoo, C.J., Dimatokis, P.E., Gharib, M., and Lang, D.B. Two-point LDV measurements in a plane mixing layer. (AIAA J) 1347
Kornreich, P.G. (PS, V.67; see Kowel, S.T.)
Kosson, Robert L. (AIAA J, TN; see Papazian, John M.)
Kosut, Robert L. Nonlinear optimal cue-shaping filters for motion base simulators. (JGC) 486
Kottapalli, S.B.R., Friedmann, P.P., and Rosen, A. Aeroelastic stability and response of horizontal axis wind turbines blades. (AIAA J) 1381
Kowel, S.T., Kornreich, P.G., Mahapatra, A., Mehter, M., and Szebenyi, T. Image feature analysis using DEFT sensors. (PS, V.67) 380
Kraeutle, K.J. Particle size analysis in solid propellant combustion research. (PS, V.63) 76
--(PS, V.63; see Boggs, T.L.)
Kreeb, H. (JSR; see Savage, C.J.)
Kreindler, E. (JGC; see Hermesh, R.)
Krier, Herman and Adams, Michael J. An introduction to gun interior ballistics and a simplified ballistic code. (PS, V.66)1
Krishna, P.M.M. (JSR; see Jain, S.R.)
Kroutil, J.C. (AIAA J; see Chen, C.P.)
Krupp, W.E. (JA; see Van Orden, J.M.)
Kulfan, Robert M. (JA; see Jobe, Charles E.)
Kulfan, Robert M. and Sigalla, Armand Real flow limitations in supersonic airplane design. (JA, SP) 645
Kulkarni, Satish V. (AIAA J, SYN; see Chatterjee, Sailendra N.)
Kumar, Ajay, Tiwari, S.N., and Graves, R.A., Jr. Laminar and turbulent flows over a spherically blunted cone with massive surface blowing. (AIAA J) 1326
--Radiating viscous shock-layer solutions for Jovian entry at angle of attack. (PS, V.64) 147
Kunhikrishnan, K.V. (JA, EN; see Sarma, V.V.S.)
Kuo, K.K. (JSR; see Davis, T.R.)
--(AIAA J; see Razdan, M.K.)
Kuriki, Kyoichi The MPD thruster test on the space shuttle. (JSR) 326
Kussoy, M.I. (AIAA J; see Acharya, M.)
Kutler, Paul, Pulliam, Thomas H., and Vigneron, Yvon C. Computation of the viscous supersonic flow over external axial corners. (AIAA J) 571
Kutsenogii, K.P. (PS, V.63; see Mikheev, V.F.)
Kvaternik, R.G. (JA; see Kaza, K.R.V.)
Lackman, Leslie (JA; see Ascani, Leonard)
Laderman, A.J. and Demetriades, Anthony Turbulent shear stresses in compressible boundary layers. (AIAA J) 736
Laitone, J.A. Erosion prediction near a stagnation point resulting from aerodynamically entrained solid particles. (JA) 809
Lakshminarayana, B. (AIAA J; see Reynolds, B.)
Lan, C. Edward Ground effects on USB configurations. (JA,EN) 62
Lan, C. Edward and Mehrotra, Sudhir C. Improved Woodward's panel method for calculating edge suction forces. (JA, EN) 632
Landweber, Louis (JH; see Denli, Nuray)
Lang, D.B. (AIAA J; see Koochesfahani, M.M.)
Lang, J.D. (AIAA J; see Keesee, J.E.)
--(AIAA J; see Francis, M.S.)
Lang, K.-W. and Nemat-Nasser, S. An approach for estimating vibration characteristics of nonuniform rotor blades. (AIAA J) 995
Lang, T.J. Optimal impulsive maneuvers to accomplish small plane changes in an elliptical orbit. (JGC) 271
Langlois, G. and Gonard, R. New law for crack propagation in solid propellant material. (JSR) 357
Large, Edward Optimal climb paths for a ballistic rocket within the atmosphere. (JSR, EN) 282
Larkin, William J. and Thomas, Mitchell Atmospheric flight of a variable-body. (JGC) 382
Larson, Terry J. (JSR; see Siemers, Paul M., III)
Lau, C.V. (JE; see Mattick, A.T.)
Lauchle, Gerald C. Horizontal buoyancy effects on the pressure distribition of a body in a duct. (JH) 61
Laurenson, Robert M., McPherson, James I., and Shore, Charles P. Design procedures for flutter-free surface panels. (AIAA J, SYN) 398
Lawing, P.L. (JA; see Hunt, J.L.)
Lawson, T.W. (PS, V.65; see Ahern, J.E.)
Leadbetter, Sumner A. (JSR; see Pinson, Larry D.)
Lebacqz, J.V. and Radford, R.C. Experimental investigation of

control-display requirements for a jet-lift VTOL aircraft. (JGC) 479
Lederman, S., Celentano, A., and Glaser, J. Flowfield diagnostics. (AIAA J) 1106
Lee, P.K. Atmospheric limitations on antenna pointing performance. (JSR) 115
Lee, Tieh-Ying Coupled thermomechanical effects in high solids propellant. (AIAA J, TN) 1015
Lee, Y.C. (JGC, EN; see McVey, E.S.)
Lefebvre, A.H. (JE; see Ballal, D.R.)
Leggett, H. and King, H.M. Porcelain enamel passive thermal control coating. (PS, V.65) 327
Lemmerman, L.A. and Sonnad, V.R. Three-dimensional viscous-inviscid coupling using surface transpiration. (JA) 353
Leondes, Cornelius T. (JGC, EN; see Austin, James W.)
Leondes, Cornelius T., Phillis, Ioannis A., and Chin, Leonard Method of optimizing the update intervals in hybrid navigation systems. (JGC, EN) 541
Lerner, Edwin and Markowitz, Joel An efficient structural resizing procedure for meeting static aeroelastic design objectives. (JA) 65
Levin, Alan D. (JA; see Hague, D.S.)
Lewin, J. Ground-control system for Satcom satellites. (JSR) 273
--(AIAA J, SYN; see Dwoyer, D.L.)
--(PS, V.64; see Moore, G.R.)
--(PS, V.64; see Murray, A.L.)
Lewis, Clark H. (AIAA J, SYN; see Waskiewicz, John D.)
--(AIAA J, SYN; see Dwoyer, D.L.)
Lewis, D.A., Platt, C.E. and Smith, E.B. Aeroelastic instability in F100 labyrinth air seals. (JA) 484
Libai, Avinoam Optimization of a stiffened square panel subjected to compressive edge loads. (AIAA J, SYN) 1379
Lietzke, Keith R. (JE; see Hazelrigg, George A., Jr.)
Ligrani, Phillip M. and Moffat, Robert J. Artificially thickening a smooth-wall turbulent boundary layer. (AIAA J, TN) 907
Lilley, David G. Flowfield modeling in practical combustors: a review. (JE, SP) 193
--(JE; see Novick, A.S.)
Lin, H.C. (PS, V.67; see Papanicolaou, N.A.)
Lin, Y.K. (AIAA J; see Fujimori, Y.)
Lin, Y.K., Fujimori, Y., and Ariaratnam, S.T. Rotor blade stability in turbulent flows— part 1. (AIAA J) 545
Lissaman, P.B.S. Energy effectiveness of arbitrary arrays of wind turbines. (JE) 323
Little, B.H., Jr. and Whipkey, R.R. Locked vortex afterbodies. (JA) 296
Liu, C.H. (AIAA J; see Fung, Y.T.)
Liu, Chang-Keng and Glassford, A.P.M. Cost-effective method for measuring contamination effects. (JSR) 402
Liu, C.Y. and Wang, C.T. Interference effect of catamaran planing hulls. (JH, EN) 31
Liu, J.S.K. and Chow, W.L. Axisymmetric transonic turbulent base pressures. (AIAA J, SYN) 330
Liu, Shih-Min, Sharma, Pramod K., and Knuth, Eldon L. Satellite drag coefficients calculated from measured distributions of reflected helium atoms. (AIAA J)1314
Liutermoza, John F. (AIAA J; see Ives, David C.)
Lloyd, K.H. and Brown, D.P. Instability of spinning projectiles during terminal guidance. (JGC) 65
Loehrke, J.C., Holzer, J.C., Gari, H.N., and Sharp, M.K. Stratification enhancement in liquid thermal storage tanks. (JE, SYN) 129
Loehrke, R.I. (JE; see Sharp, M.K.)
Loesch, Franklin C. Valve delay effects on bending limit cycles of a deadband system. (JGC, EN) 436
Lombard, C.K. (AIAA J; see Thomas, P.D.)
Long, E. (PS, V.67; see Lum, H.)
Longhurst, Glen R. and Wilbur, Paul J. 15-cm Mercury multipole thruster. (JSR) 42
Look, D.C. Approximate hemispherical radiative properties. (AIAA J, TN) 443
Lord, Donald D. A distributed microcomputer telemetry system for spacecraft applications. (PS, V.67) 255
Loth, J.L. Domestic hot water heating using hot air solar collectors. (JE, TN) 377
--Reply by author to C.T. Hsu. (JE, TC) 128
--Tilting wing overspeed control for vertical axis wind turbines. (JE, TN) 375
Lottati, I. (JGC; see Nissim, E.)
Love, T.J. and Francis, J.E. A linearized analysis for longitudinal fins with radiative and convective exchange. (PS, V.65) 242
Lubow, Bruce C. A correlation of spray height data for jets impinging on water. (JH, EN) 29
Luckring, James M. Aerodynamics of strake-wing interactions. (JA) 756
Luedke, E.E. (PS, V.65; see Rowe, W.M.)
Lum, H. (PS, V.67; see McCreight, C.R.)
Lum, H., Neal, P., Wong, D., and Long, E. Onboard data processing for the IRAS telescope system. (PS, V.67) 265
Lundell, J.H. (PS, V.64; see Davy, W.C.)
Lundell, J.H. and Dickey, R.R. Response of heat-shield materials to intense laser radiation. (PS, V.64) 193
Lutze, Frederick H. Unaided EVA intercept and rendevous charts. (JSR) 426
Lyman, Frederic A. Experiments in coal devolatilization and combustion. (PS, V.63) 297
Mabey, Dennis G. Use of sound absorbing walls to reduce dynamic interference in wind tunnels. (AIAA J, SYN) 334
--(AIAA J, TN; see Raghunathan, S.)
MacConochie, Ian O. (JSR; see Rehder, John J.)
Mackley, Ernest A. (JA,SYN; see Andrews, Earl H., Jr.)
Maddox, A.R., Dix, R.E., and Mattasits, G.R. In-flight captive store loads compared with wind-tunnel and mathematical simulations. (JA) 289
Maeda, Hiroshi (JA; see Okubo, Hiroshi)
Magnus, A.E. (AIAA J, SYN; see Ehlers, F.E.)
Mahapatra, A. (PS, V.67; see Kowel, S.T.)
Maher, W.E. High-power laser coupling. (PS, V.65) 179
--(PS, V.65; see Hall, R.B.)
Mahgoub, H.E.H. and Bradshaw, P. Calculation of turbulent-inviscid flow interactions with large normal pressure gradients. (AIAA J) 1025
Maine, Richard E. (JGC; see Iliff, Kenneth W.)
Maine, Richard E. and Iliff, Kenneth W. Maximum likelihood estimation of translational acceleration derivatives from flight data. (JA) 674
Malcolm, Gerald N. New rotation-balance apparatus for measuring airplane spin aerodynamics in the wind tunnel. (JA) 264
Mallya, R. (JSR; see PaiVerneker, V.R.)
Mantay, Wayne R., Shidler, Philip A., and Campbell, Richard L. Some results of the testing of a full-scale Ogee-tip rotor. (JA) 215
Mantegazza, P. (AIAA J; see Cardani, C.)
Marchman, James F., III Aircraft operating environments around high-speed ships. (JH, SYN) 3
Marcum, D.C. (JA; see Hunt, J.L.)
Marcus, B.D. (AIAA J, TN; see Eninger, James E.)
Maresca, Christian (AIAA J, TN; see Favier, Daniel)
Marinescu, A. Low-thrust maneuvers near the libration points. (JGC) 119
Markowitz, Joel (JA; see Lerner, Edwin)
Marshall, Robert S. (AIAA J, TN; see Heinrich, Juan C.)
Martin, James A. Cost comparison of dual-fuel propulsion in advanced shuttles. (JSR) 232
Marto, P.J. and Wagenseil, L.L. Augmenting the condenser heat-transfer performance of rotating heat pipes. (AIAA J) 647
Massey, B.S. (AIAA J, TN; see Clayton, B.R.)
Mattasits, G.R. (JA; see Maddox, A.R.)
Mattick, A.T., Hertzberg, A., Decher, R., and Lau, C.V. High-temperature solar photon engines. (JE) 30
Mattox, Douglas M. (AIAA J, TN; see Wilcox, William R.)
May, Ingo W. and Horst, Albert W. Charge design considerations and their effect on pressure waves in guns. (PS, V.66) 197
Mayo, Ronald A. Relative quaternion state transition relation. (JGC) 44
Mazzola, M. (PS, V.63; see Monti, R.)
McArdle, Jack C. (JA; see Gunnarson, Daniel W.)
McClendon, Ronald W. (AIAA J, SYN; see Murphree, David L.)
McCormick, Michael J. The user's experience and technology transfer. (PS, V.67) 63
McCreight, C.R. and Lum, H. Integrated detector array preprocessing for infrared astronomical applications. (PS, V.67) 455
McFadin, Louis W. Application of smart sensor techniques to a solid-state array multispectral sensor. (PS, V.67) 469
McGowan, Philip R. (JA; see Olson, Lawrence E.)
McGogan, J.T. and Walsh, E.J. Real-time determination of geophysical parameters from a multibeam altimeter. (PS, V.67) 110
McIntryre, Stan (JSR; see Dettling, J. Ray)
McKinnon, R.A. (JA; see Rowe, W.T.)
McKissick, B.T. (JA; see Ashworth, B.R.)
McMahon, H.M. and Antani, D.L. Experimental study of a jet issuing from a lifting wing. (JA) 275
McMillan, O.J. and Ferziger, J.H. Direct testing of subgrid-scale models. (AIAA J) 1340
McNamara, R.P. (PS, V.63; see Strand, L.D.)
McPherson, James I. (AIAA J, SYN; see Laurenson, Robert M.)
McVey, E.S. and Lee, Y.C. Choice of method for discretization of continuous systems. (JGC, EN) 92
Mehrota, Sudhir C. (JA, EN; see Lan, C. Edward)
Mehta, R.C. Thermal analysis of a conical cathode of an MPD arc. (AIAA J, TN) 1272
Mehta, Gopal K. and Strahle, Warren C. Analysis of axially symmetric external burning propulsion for bluff-base bodies. (AIAA J, SYN) 269
Mehter, M. (PS, V.67; see Kowel, S.T.)
Meirovitch, Leonard (JGC, EN; see Canavin, Joseph R.)
Meirovitch L. and Oz, H. Observer modal control of dual-spin flexible spacecraft. (JGC) 101

Meirovitch, L., VanLandingham, H.F., and Oz, H. Distributed control of spinning flexible spacecraft. (JGC) 407
Mellor, A.M. (JE; see Schmidt, D.A.)
--(JA; see Washam, R.M.)
--(JE; see Wyatt, W.R.)
Mellor, A.M. and Washam, R.M. Characteristic time correlations of pollutant emissions from an annular gas turbine combustor. (JE) 250
Melnik, Robert E. (AIAA J, TN; see Keyfitz, Barbara L.)
Menees, G.P. (PS, V.64; see Davy, W.C.)
Meng, S.Y. (AIAA J, TN; see Cheng, H.K.)
Meolans, J.G., Nicoli, C., and, Brun, R. Influence of the physical model on the vibration relaxation in expansion flows. (AIAA J, TN) 1260
Merkli, P. (AIAA J; see Escudier, M.P.)
Merz, R.A. Subsonic base pressure fluctuations. (AIAA J, TN) 436
Meyer, J.W. Kinetic model for aerosol formation in rocket contrails. (AIAA J) 135
Mezines, S.A. (PS,
McPherson, James I. (AIAA J, SYN; see Laurenson, Robert M.)
McVey, E.S. and Lee, Y.C. Choice of method for discretization of continuous systems. (JGC, EN) 92
Mehrota, Sudhir C. (JA, EN; see Lan, C. Edward)
Mehta, R.C. Thermal analysis of a conical cathode of an MPD arc. (AIAA J, TN) 1272
Mehta, Gopal K. and Strahle, Warren C. Analysis of axially symmetric external burning propulsion for bluff-base bodies. (AIAA J, SYN) 269
Mehter, M. (PS, V.67; see Kowel, S.T.)
Meirovitch, Leonard (JGC, EN; see Canavin, Joseph R.)
Meirovitch L. and Oz, H. Observer modal control of dual-spin flexible spacecraft. (JGC) 101
Meirovitch, L., VanLandingham, H.F., and Oz, H. Distributed control of spinning flexible spacecraft. (JGC) 407
Mellor, A.M. (JE; see Schmidt, D.A.)
--(JA; see Washam, R.M.)
--(JE; see Wyatt, W.R.)
Mellor, A.M. and Washam, R.M. Characteristic time correlations of pollutant emissions from an annular gas turbine combustor. (JE) 250
Melnik, Robert E. (AIAA J, TN; see Keyfitz, Barbara L.)
Menees, G.P. (PS, V.64; see Davy, W.C.)
Meng, S.Y. (AIAA J, TN; see Cheng, H.K.)
Meolans, J.G., Nicoli, C., and, Brun, R. Influence of the physical model on the vibration relaxation in expansion flows. (AIAA J, TN) 1260
Merkli, P. (AIAA J; see Escudier, M.P.)
Merz, R.A. Subsonic base pressure fluctuations. (AIAA J, TN) 436
Meyer, J.W. Kinetic model for aerosol formation in rocket contrails. (AIAA J) 135
Mezines, S.A. (PS, V.64; see Nelson, H.F.)
Michel, Roger, Mignosi, Andre, and Quemard, Claude The induction driven tunnel at ONERA-CERT. (JA) 134
Mignosi, Andre (JA; see Michel, Roger)
Mihara, Shoichiro (JGC, see Kato, Kanichiro)
Mikhail, M.N. Optimum design of wind tunnel contractions. (AIAA J) 471
Mikheev, V.F., Zarko, V.E., Borin, S.M., Kutsenogii, K.P., and Simonenko, V.N. Measurement of burning rates in transient combustion processes under the influence of external radiation. (PS, V.63) 173
Miles, G.A. (JE; see Novick, A.S.)
Milinazzo, F. (AIAA J; see Oved, Y.)
Millar, R.A. (JSR; see Garg, S.C.)
Millar, R.A. and Vigneron, F.R. Attitude stability of a pseudorate jet-controlled flexible spacecraft. (JGC) 111
Miller, J.W. (PS, V.65; see Somers, R.R., III)
Miller, M.C. (JSR; see D'Amico, W.P.)
Miller, Miles C. Wind-tunnel measurements of the surface pressure distribution on a spinning Magnus rotor. (JA) 815
Miller, R.H. The effect of demand on optimum launch vehicle size. (JSR, EN) 287
--On the weathervaning of wind turbines. (JE, TN) 319
Miller, R.H. and Akin, D.L. Space-manufactured satellite power systems. (JE, TN) 373
Miller, Thomas E. (AIAA J; see Hodge, James K.)
Mills, A.F. Comment on "Calculation of incompressible rough-wall boundary-layer flows." (AIAA J, TC) 220
Mills, George R. (JA; see Hwang, Chintsun)
Millward, Adrian Definition of yaw meter sensitivity for the "null reading" technique. (JH, EN) 130
Minning, C.P. Radiation shape factors between end plane and outer wall of concentric tubular enclosures. (AIAA J, TN) 1406
--Shape factors between coaxial annular disks separated by a solid cylinder. (AIAA J, TN) 318
Mirels, Harold Inhomogeneous broadening effects in cw chemical lasers. (AIAA J) 478
Mistretta, G.D. (JGC; see Gordon, R.A.)
Mittal, M.L. and Sarma, P.R.L. Current distribution at the end regions of a magnetohydrodynamic channel. (JE, TN) 181
Modarress, D. and Johnson, D.A. Investigation of turbulent boundary-layer separation using laser velocimetry. (AIAA J) 747
Moffat, Robert J. (AIAA J, TN; see Ligrani, Phillip M.)
Monti, R. and Mazzola, M. Continuous regression rate measurement in hybrid rockets. (PS, V.63) 111
Mooij, H.A. and van Gool, M.F.C. Reply by authors to W.O. Breuhaus. (JA, TC) 640
Mook, D.T. (JA; see Asfar, K.R.)
Moon, Francis (AIAA J; see Kim, Byoung Sung)
Moore, John Elliott, Jr. and Cutchins, Malcolm A. Computational scheme for structural influence coefficents of certain planar wings. (JA) 315
Moore, G.R., Anderson, L.P., Jr., Lewis, C.H., and Murray, A.L. Solid rocket motor plume and ablation study. (PS, V.64) 265
Moran, D.D. (JH; see Ochi, M.D.)
Morrison, Phillip A. (JGC; see Nulk, Robert A.)
Mort, Kenneth, W., Soderman, Paul T., and Eckert, William T. Improving large-scale testing capability by modifying the 40- by 80-ft wind tunnel. (JA) 571
Morton, J.B. (AIAA J, SYN; see Catalano, G.D.)
--(AIAA J; see Gad-el-Hak, Mohamed)
Moss, James N. (PS, V.64; see Zoby, E.V.)
Moss, James N., Jones, Jim J., and Simmonds, Ann L. Radiative flux penetration through a blown shock layer for Jupiter entry conditions. (PS, V.64) 22
Mouch, Thomas N. (JSR, EN; see Nelson, Robert C.)
Muggeridge, D.B. and Buckley, T.J. Dynamics of a fluid conveying fiber-reinforced shell. (AIAA J, TN) 663
--Flexural vibration of orthotropic cylindrical shells in a fluid medium. (AIAA J, TN) 1019
Muhlstein, Lado Jr., and Coe, Charles F. Integration time required to extract accurate data from transonic wind-tunnel tests. (JA) 620
Muirhead, Vincent U. and Saltzman, Edwin J. Reduction of aerodynamic drag and fuel consumption for tractor-trailer vehicles. (JE) 279
Mularz, Edward J., Gleason, Clifford C., and Dodds, Willard J. Combustor concepts for aircraft gas turbine low-power emissions reduction. (JE) 55
Mulpuru, Sambasiva R. and Banerjee, Sanjoy Conservative implicit method for shock wave calculations. (AIAA J, TN) 537
Munje, Satish (JE; see Feldman, Karl Thomas, Jr.)
Munzel, W.D. (JSR; see Groll, M.)
Murakami, M. Control of contamination in cyrogenically cooled satellite telescopes. (JSR, SYN) 193
Murman, E. (AIAA J; see Hafez, M.)
Murphree, David L, McClendon, Ronald W., Ward, Bradley W., and Glaum, Fred Mathematical modeling of fish detection with a scanning airborne laser. (AIAA J, SYN) 745
Murphy, Charles H. Angular motion of spinning almost-symmetric missiles. (JGC) 504
Murphy, F.L. (PS, V.65; see Kavanagh, H.M.)
Murphy, Lawrence P. and Jarman, John W. The role of "smart" sensors in Earth resources remote sensing programs. (PS, V.67) 101
Murray, A.L. (PS, V.64; see Moore, G.R.)
Murray, A.L. and Lewis, Clark H. Heat- and mass-transfer effects on three-dimensional hypersonic viscous shock-layer flows. (PS, V.64) 165
Murrow, H.N. and Eckstrom, C.V. Drones for aerodynamic and structural tesing (DAST) — a status report. (JA) 521
Murthy, A.V. (AIAA J, SYN; see Gopinath, R.)
Murthy, V. Sreedhara (AIAA J, RF; see Rose, William C.)
Musker, A.J. Explicit expression for the smooth wall velocity distribution in a turbulent boundary layer. (AIAA J, TN) 655
Myerson, Allan S. and Harris, Christopher F. Fuel development for open-loop combustion-driven MHD power generation. (JE,TN) 120
Myhre, S.H. and Beck, C.E. Repair concepts for advanced composite structures. (JA) 720
Nabavi, Hassan and Bannerot, Richard B. Heat-transfer considerations in groovelike solar collectors. (PS, V.65) 229
Nagib, H.M. (AIAA J, TN; see Corke, T.C.)
Nair, S. and Hegemier, G. Stability of faired underwater towing cables. (JH) 20
Nakamura, Hidetoshi (JGC; see Kato, Kanichiro)
Nakamura, Takashi and Jenkins, Marion K. Performance of disk generators for open-cycle MHD power generation. (JE) 217
Nanbu, Kenichi Separation factors for UF isotopes accelerated by helium expanding spherically into a vacuum. (JE, SYN) 67
Napolitano, M., Werle, M.J., and Davis, R.T. Numerical technique for the triple-deck problem. (AIAA J) 699
Narayanan, M.A. Badri Universal trends observed in the maxima of the longitudinal velocity fluctuations and the zero crossings in turbulent flows. (AIAA J, TN) 527
Nassar, Esam M. Rapid calculation of the resonance frequency for rotationally restrained rectangular plates. (AIAA J) 6
Nayfeh, A.H. (JA; see Asfar, K.R.)
Nayfeh, A.H. and Padhye, A. Relation between temporal and spatial stability in three-dimensional flows. (AIAA J) 1084

Nazaroff, Gregory J. Orientation vector differential equation. (JGC, EN) 351
Neal, P. (PS, V.67; see Lum, H.)
Neale, D.H., Hubbartt, J.E., and Strahle, W.C. Effects of axial and radial air injection on the near wake with and without external compression. (AIAA J, TN) 301
Neff, W.S. (JA; see Hammond, E.F., Jr.)
Neiers, James W. (PS, V.67; see Golden, Harvey)
Nelson, Carl W., Adams, George F., and Ward, J. Richard Comment on "Pressure dependence of burning rate of composite solid propellants." (AIAA J, TC) 222
Nelson, D.J. (PS, V.65; see Hall, R.B.)
Nelson, H.D. and Glasgow, D.A. Eigenrelations for general second-order systems. (AIAA J, TN) 795
Nelson, H.F. and Mezines, S.A. Analysis of Jupiter probe heat-shield recession uncertainties. (PS, V.64) 293
Nelson, Robert C. and Mouch, Thomas N. Cylinder/splitter-plate data illustrating high support interference. (JSR, EN) 126
Nelson, T.F. (JA; see Potonides, H.C.)
Nemat-Nasser, S. (AIAA J; see Lang, K.-W.)
Nesline, F. William Missile guidance for low-altitude air defense. (JGC) 283
Neste, S.L. (AIAA J; see Eaton, L.R.)
Nestler, D.E. (PS, V.64; see Brant, D.N.)
Neti, Sudhakar and Clark, Wayne On-axis velocity component measurement with laser velocimeters. (AIAA J, TN)1013
Netzer, David W. and Andrews, James R. Schlieren studies of solid-propellant combustion. (PS, V.63) 235
Neumann, R.D., Patterson, J.L., and Sliski, N.J. Aerodynamic heating to the X-24C hypersonic research configuration. (PS, V.65) 192
Newsom, Jerry R. Control law synthesis for active flutter suppression using optimal control theory. (JGC) 388
Newton, J.F. (AIAA J; see Cassady, P.E.)
Nguyen, Khanh H. (JE, TN; see Pejsa, Jane H.)
Nicholas, E.B. (JA; see Sarkos, C.P.)
Nichols, D.B. (PS, V.65; see Hall, R.B.)
Nicolef, William E. (PS, V.64; see Green, Michael J.)
Nicoli, C. (AIAA J, TN; see Meolans, J.G.)
Nikiforuk, P.N. (JGC; see Ohta, H.)
Nikiforuk, P.N., Ohta, H., and Gupta, M.M. Design of a two-level adaptive flight control system. (JGC) 79
Nissim, E. and Lottati, I. Active external store flutter suppression in the YF-17 flutter model. (JGC) 395
--On single-degree-of-freedom flutter induced by activated controls. (JGC) 402
Nithianandan, C.K. (AIAA J; see Jones, B.G.)
Nixon, David On unsteady transonic shock motions. (AIAA J, TN) 1143
Noll, T.E. and Huttsell, L.J. Wing store active flutter suppression—correlation of analyses and wind-tunnel data. (JA) 491
Noll, Thomas E. (JA; see Felt, Larry R.)
--(JA; see Hwang, Chintsun)
Nopratvarakorn, Vichien and Huang, Ju-chin Quadrilateral plate element for laminated structure. (AIAA J, TN) 95
Norris, David D. (PS, V.67; see Wellman, John B.)
Norster, E.R. (JE; see Flanagan, P.)
Novick, A.S., Miles, G.A., and Lilley, D.G. Modeling parameter influences in gas turbine combustor design. (JE) 257
--Numerical simulation of combustor flowfields: a primitive variable design capability. (JE) 95
Nulk, Robert A., Pastrick, Harold L., and Morrison, Phillip A. Copperhead semiactive laser guidance system development. (JGC) 374
Oates, Gordon C. and Presz, Walter M., Jr. Effects of nonconstant enthalpy addition on fan-nozzle combinations. (JA, EN) 891
Obee, T.N. (JA; See Keith, T.G.)
Obi, Wilson C. Formulas for spanwise distribution of lift on aircraft wings. (JA, EN) 733
O'Brien, Paul J. (JA; see Tobias, Leonard)
Ochi, M.D. and Moran, D.D. Seakeeping quality of advanced marine vehicles for design applications. (JH) 85
Ogana, Wandera Derivation of an integral equation for three-dimensional transonic flows. (AIAA J, TN) 305
Ogg, Jon S. and Taylor, Wilson R. Accelerated mission testing of gas turbine engines. (JA) 247
Ohta, H. (JGC; see Nikiforuk, P.N.)
Ohta, H., Nikiforuk, P.N., and Gupta, M.M. Design of desirable handling qualities for aircraft lateral dynamics. (JGC) 31
Okubo, Hiroshi, Kobayakawa, Makoto, and Maeda, Hiroshi Lifting surface approach to the estimation of gust response of finite wings. (JA) 309
Olson, Lawrence E., James, William D., and McGowan, Phillip R. Theoretical and experimental study of the drag of single- and multielement airfoils. (JA) 462
Olstad, W.B. (PS, V.64; see Zoby, E.V.)
Orloff, E.I. Pyrolysis model for an alpha waste incinerator prototype. (JE) 90
Osborn, J.R. (AIAA J; see Renie, J.P.)
Oshima, K. (PS, V.65; see Shimoji, S.)
Ostrovsky, Yu. N. (AIAA J; see Tolubinsky, V.I.)
Ostrowski, P.P. and Dabora, E.K. Shock tube measurement of nitric oxide and atomic oxygen by chemiluminescent radiation. (AIAA J) 898
Otey, G.R. and Dwyer, H.A. Numerical study of the interaction of fast chemistry and diffusion. (AIAA J) 606
Oved, Y., Milinazzo, F., Clements, R.M., and Smy, P.R. Blast waves produced by a time-dependent energy source. (AIAA J) 601
Owen, F.K. and Johnson, D.A. Wake vortex measurements of an ogive cylinder at $\alpha = 36$ degrees. (JA) 577
Oz, H. (JGC; see Meirovitch, L.)
Ozkul, Ahmet Investigation of acoustic radiation from supersonic jets by double-pulse holographic interferometry. (AIAA J) 1068
Padhye, A. (AIAA J; see Nayfeh, A.H.)
Pagano, N.J. and Hsu, P.W. Geometric analysis of Rosette® exit cones. (JSR) 311
Pai Verneker, V.R. (JSR; see Jain, S.R.)
Pai Verneker, V.R., Seetharamacharyulu, D., and Mallya, R.M. Combustion of ammonium perchlorate-aluminum mixtures. (JSR, EN) 436
Pajerski, Rosemarna S. (PS, V.67; see Fuchs, Arthur J.)
Palazotto, A.N. (AIAA J; see Witt, W.P., III)
--(JA; see Cervantes, J.A.)
Palmer, Everett, A. (JA; see Tobias, Leonard)
Palowitch, E.R. and Broussard, P.H., Jr. Automated guidance and control of longwall mining machines. (JE) 329
Papanicolau, N.A. and Lin, H.C. A monolithic SAW-charge transfer device. (PS, V.67) 325
Papazian, John M. (AIAA J, TN; see Wilcox, William R.)
Papazian, John M., Gutowski, Robert, and Wilcox, William R. Bubble behavior during soldification in low gravity. (AIAA J) 1111
Papazian, John M. and Kosson, Robert L. Effect of internal heat transport on the thermal migration of bubbles. (AIAA J, TN) 1279
Parachivoiu, I. and Bilgen, E. Free vortices from a wing for wind turbine systems. (JE, TN) 190
Park, Chul (PS, V.64; see Prakash, S.G.)
Park, S. (JA; see Iversen, J.D.)
Park, Stephen K. (PS, V.67; see Huck, Friedrich O.)
Parks, D.E. and Katz, I. Spacecraft-generated plasma interaction with high-voltage solar array. (JSR) 258
Parmley, R.T. and Cunnington, G.R., Jr. Demonstration of an ultralightweight, evacuated, load-bearing, high-performance microsphere insulation system. (PS, V.65) 295
Parnes, R. On the accuracy of linear beam theory. (AIAA J, TN) 219
Parrish, W.J. (PS, V.67; see Thom, R.D.)
Parthasarathy, K.N., Anderson, J.D., Jr., and Jones, E. Downstream mixing gasdynamic lasers—a numerical solution. (AIAA J) 1208
Pastrick, Harold L. (JGC; see Nulk, Robert A.)
Patel, Rajni P. Some measurements in radial free jets. (AIAA J, TN) 657
Patrick, W.P. (JE; see Suo, M.)
Patsalides, Nicos M. and Kim, Thomas J. Effect of nonhomogeneity in orthotropic curved plates. (AIAA J, TN) 1276
Patterson, J.L. (PS, V.65; see Neumann, R.D.)
Pearce, B.E. and Dash, S.M. Use of matched pressure initial conditions for predicting low-altitude rocket plume radiation. (AIAA J, TN) 667
Pedley, Barbara (JA; see Ciffone, Donald L.)
Pejsa, Jane H., Nguyen, Khanh H., and Wenzler, Stephanie A. Evaluation of control options for solar climate control systems. (JE, TN) 183
Pelka, Eugene J. and DeBra, Daniel B. Effects of relative instrument orientation upon gravity gradiometer system performance. (JGC) 18
Pepper, William B. Overtest results for the 7.3-m (24-ft) diameter hybrid Kevlar-29/nylon ribbon parachute. (JA) 47
Pergament, H.S. (AIAA J; see Dash, S.M.)
Perkowitz, S. (PS, V.65; see Grammer, J.R.)
Pershing, Bernard M. Performance of windmills in a closely spaced array. (JE, TN) 185
Peters, J.E. (JE; see Wyatt, W.R.)
Petersen, H.L. (PS, V.67; see Phillips, D.H.)
Peterson, Carl W. A survey of the utilitarian aspects of advanced flowfield diagnostic techniques. (AIAA J, SP) 1352
--(JA; see Croll, Robert H.)
Peterson, C.W. Measurements of flowfield properties in a gasdynamic laser nozzle wake. (AIAA J) 854
Petty, J.S. (AIAA J; see Shang, J.S.)
Phillips, D.H. and Petersen, H.L. High-speed gallium arsenide integrated circuit development for satellite systems. (PS, V.67) 391
Phillis, Ioannis A. (JGC, EN; see Leonides, Cornelius T.)
Pi, W.S. (JA; see Hwang, Chintsun)
--(JA, EN; see Hwang, Chintsun)
Pierce, J. (PS, V.66; see Serao, P.)
Pierson, Bion L. and Chen, Imao Minimum landing-approach distance for a sailplane. (JA, EN) 287
Pindroh, A.L. (AIAA J; see Cassady, P.E.)
Pinson, Larry D. and Leadbetter, Sumner A. Some results from 1/8-scale shuttle model vibration studies. (JSR) 48

Planchon, H.P., Jr. (AIAA J; see Jones, B.G.)
Platt, C.E. (JA; see Lewis, D.A.)
Platus, D.H. Re-entry vehicle dispersion from entry angular misalignment. (JGC) 276
Poch, L.A. (JE; see Shultis, J.K.)
Pomeroy, B.D. and Salemme, R.M. Conceptual design of sodium-cooled central receiver solar power plant. (JE) 299
Porcelli, G. (JGC; see Spencer, T.M.)
Porcelli, G. and Vogel, E. Modular, spin-stabilized, tandem solid rocket upper stage. (JSR) 338
Potonides, H.C., Cea, R.A., and Nelson, T.F. Design and experimental studies of a type A V/STOL inlet. (JA) 543
Pouliquen, Marcel and Gill, Georges S. Performance characteristics of the HM7 rocket engine for the Ariane launcher. (JSR) 367
Powell, E. G., Wilmot, G., Haar, L., and Klein, M. Equations of state and thermodynamic data for interior ballistics calculations. (PS, V.66) 325
Powell, R.W. (PS, V.64; see Sutton, K.)
Prabhakaran, R. Application of brittle coatings to graphite fiber-reinforced plastics. (AIAA J, TN) 110
Praharaj, S.C. Undisturbed heat-transfer data analysis on the space shuttle external tank barrel section. (PS, V.65) 215
Prakash, S.G. and Park, Chul Shock-tube studies of atomic silicon emission in the spectral range 180 to 300 nm. (PS, V.64) 245
Prasad, Anant Melting of solid bodies due to convective heating with the removal of melt. (JSR, EN) 445
Pratt, David T. Coalescence/dispersion modeling of high-intensity combustion. (JE) 177
Presley, Leroy L. (AIAA J; see Cook, William J.)
Presz, Walter M., Jr. (JA,EN; see Oates, Gordon C.)
Pretty, J.R. and Hookway, R.O. A comparison of different forms of dirigible equations of motion. (JGC, EN) 154
Price, Channon F. (PS, V.63; see Juhasz, Arpad A.)
Price, E.W. Velocity coupling in oscillatory combustion of solid propellants. (AIAA J, RF) 799
Price, Robert D. NASA end-to-end data system program. (PS, V.67) 155
Prussing, John E. Bounds on the solution to a universal Kepler's equation. (JGC, EN) 440
--Geometrical interpretation of the angles α and β in Lambert's problem. (JGC, EN) 442
Przirembel, C.E.G. and Shereda, Donald E. Aerodynamics of slender bodies at high angles of attack. (JSR) 10
Przemieniecki, J.S. and Talbot, R.J. Dynamic response analysis of structural systems using a direct integration method. (JA) 195
Pulliam, Thomas H. (AIAA J; see Kutler, Paul)
Purdy, K.R. (AIAA J; see Ventrice, M.B.)
Purvis, James W. and Burkhalter, John E. Prediction of critical Mach number for store configurations. (AIAA J) 1170
Queijo, M.J. (JA; see Wells, William R.)
Queijo, M.J., Wells, William R., and Keskar, Dinesh A. Influence of unsteady aerodynamics on extracted aircraft parameters. (JA) 708
Quemard, Claude (JA; see Michel, Roger)
Raag, V. (JE; see Swerdling, M.)
Radford, R.C. (JGC; see Lebacqz, J.V.)
Radgowski, E. and Albrecht, R. Investigation of electrostatic discharge in aircraft fuel tanks during refueling. (JA) 506
Rae, William H., Jr. (JA, SYN; see Shindo, Shojiro)
Raghavan, K.S. (AIAA J; see Rao, S.S.)
Raghunathan, S., Coll, J.B., and Mabey, D.G. Flat plate turbulent boundary layers subject to large pressure fluctuations. (AIAA J, TN) 105
--Transonic shock/boundary-layer interaction subject to large pressure fluctuations. (AIAA J, TN) 1404
Raj, Pradeep and Gray, Robin B. Computation of three-dimensional potential flow using surface vorticity distribution. (JA) 162
Rajaram, S. (JGC; see Goel, P.S.)
Rakich, John V. (AIAA J, SYN; see Tannehill, J.C.)
Ramachandra, Sridhar M. Some singular acoustic signatures observed in a jet aircraft. (JA, SYN) 513
Ramakrishnan, S.V. and Subramanian, N.R. Flow past nonconical wings with separation. (JA,ER) 576
Ramchand, K. (JA; see Sarma, V.V.S.)
Ramsey, W.D. 12-cm argon/xenon ion source. (JSR) 252
Rao, Dhanvada M. Side-force alleviation on slender, pointed forebodies at high angles of attack. (JA) 763
Rao, S.S., and Raghavan, K.S. Dynamic response of inelastic thick plates. (AIAA J) 85
Rapagnani, N.L. and Davis, S.J. Laser-induced I_2 fluorescence measurements in a chemical laser flowfield. (AIAA J, TN) 1402
Raper, Richard M. (AIAA J; see Reda, Daniel C.)
Rastogi, R.P., Singh, H.J., and Srivastava, A.K. Reply by authors to Nelson, Adams, and Ward. (AIAA J. TC) 223
Ratwani, M.M. Analysis of cracked, adhesively bonded laminated structures. (AIAA J) 988
Ratwani, M.M. and Wilhem, D.P. Factors affecting residual strength prediction of a cracked aircraft structure. (JA) 209
Ravindranath, A. (AIAA J; see Reynolds, B.)
Razdan, M.K. and Kuo, K.K. Erosive burning study of composite solid propellants by turbulent boundary-layer approach. (AIAA J) 1225
Rebont, Jean (AIAA J, TN; see Favier, Daniel)
Reda, Daniel C. Boundary-layer transition experiments on sharp, slender cones in supersonic free flight. (AIAA J) 803
Reda, Daniel C. and Raper, Richard M. Measurements of transition-front asymmetries on ablating graphite nosetips in hypersonic flight. (AIAA J) 1201
Reddy, Ravi (JA; see Frost, Walter)
Redhed, David D., Chen, Allen W., and Hotovy, Steven G. New approach to the 3-D transonic flow analysis using the STAR-100 computer. (AIAA J, TN) 98
Reding, J. Peter Fluctuating pressures on mildly indented nosetips. (JSR) 302
--(AIAA J, TN; see Ericsson, Lars E.)
Redman, Reagan S. and Wolff, Calvin M. Development of a multipurpose radiometer. (JSR, EN) 350
Reece, J.H. (PS, V.67; see Snyder, W.E.)
Reed, G.J. (JSR; see Dunsworth, L.C.)
Reemsnyder, D.C. and Sagerser, D.A. Reverse thrust performance of a variable-pitch fan engine at forward velocity. (JA) 848
Rehder, John J. and Wurster, Kathryn E. Electric vs chemical propulsion for a large-cargo orbit transfer vehicle. (JSR) 129
Rehder, John J., Wurster, Kathryn E., MacConochie, Ian O., and Klich, Phillip J. Propulsion options for space-based orbital transfer vehicles. (JSR) 333
Reilly, J.P., Ballantyne, A., and Woodroffe, J.A. Modeling of momentum transfer to a surface by laser-supported absorption waves. (AIAA J) 1098
Renie, J.P., Condon, J.A., and Osborn, J.R. Oxidizer size distribution effects on propellant combustion. (AIAA J) 877
Reshotko, Eli Drag reduction by cooling in hydrogen-fueled aircraft. (JA) 584
Reubush, David E. Effect of over-the-wing nacelles on wing-body aerodynamics. (JA) 359
Reynolds, B., Lakshminarayana, B., and Ravindranath, A. Characteristics of the near wake of a compressor of a fan rotor blade. (AIAA J) 959
Rice, E.J. Optimum wall impedance for spinning modes—a correlation with cutoff ratio. (JA) 336
Richards, B.E. and Stollery, J.L. Laminar film cooling experiments in hypersonic flow. (JA) 177
Rickard, William W. (JA, SYN; see Harris, Robert B.)
Rieger, Thomas J. On the emissivity of alumina/aluminum composite particles. (JSR, EN) 438
Rietjens, L.H.Th. (JE; see Zlatanovic, M.)
Riffel, Ronald E. (AIAA J; see Fleeter, Sanford)
Rinderle, E.A., Jr. (JGC; see Diehl, R.E.)
Rizza, James J. Triple-point pressure evaporation of impacted droplets. (JSR) 210
Rizzetta, D.P. Time-dependent response of a two-dimensional airfoil in transonic flow. (AIAA J) 26
--(AIAA J; see Burggraf, Odus R.)
Rizzetta, Donald P. and Chin, Wilson C. Effect of frequency in unsteady transonic flow. (AIAA J, TN) 779
Roache, Patrick J. Sixth-order accurate direct solver for the Poisson and Helmholtz equations. (AIAA J, TN) 524
Roberson, Robert E. Two decades of spacecraft attitude control. (JGC, Historical Survey Lecture) 3
Roberts, B.W. (JE; see Fletcher, C.A.J.)
Roberts, Charles C., Jr. Nontracking moderately focusing heat pipe solar collector. (JE, TN) 122
Roberts, C. G. (PS, V.67; see Chapman, R.A.)
Roberts, Donald W. and Forester, Clifford K. Parabolic procedure for flows in ducts with arbitrary cross sections. (AIAA J) 33
Roberts, William B. Axial compressor blade optimization in the low Reynolds number regime. (AIAA J) 1361
Roberts, William B. and Slovisky, John A. Location and magnitude of cascade shock loss by high-speed smoke visulization. (AIAA J, TN) 1270
Robinove, Charles J. (PS, V.67; see Thorley, Gene A.)
Robinson, Paul A., Jr. Behavior of partially metallized Kapton for spacecraft charging control. (JSR) 104
Robinson, Stanley R. (JGC; see Asher, Robert B.)
Rodden, William P. Rebuttal to reply by author to "Comment on 'Flutter of flat finite element panels in a supersonic potential flow'." (AIAA J, RF) 446
Rodgers, L.W. (JE; see Chiu, H.H.)
Rollins, J.P. (JE; see Bowles, David F.)
Rollstin, L.R. Experimental determination of the artillery shell mass-property/trajectory-drift relationship. (JSR) 108
Rollstin, Larry R. and Hodapp, Albert E., Jr. Experimental evaluation of artillery projectile impact errors induced by principal-axis misalignment. (JSR) 316
Rom, J. (JSR; see Gur, I.)
Romere, P.O., Eichblatt, D.L., Underwood, J.M., and Howes, D.B. Orbiter approach and landing tests—correlation of flight and predicted performance data. (JA) 233
Roos, Frederick W. Hot-film probe technique for monitoring shock-wave oscillations. (JA) 871
Root, Robert G. (JSR, SYN; see Kemp, Nelson H.)
--(JE; see Kemp, Nelson H.)

Rose, William C. and Murthy, V. Sreedhara Reply by authors to R.D. Kirchner. (AIAA J, RF) 671
Rosemary, J.K., Bauerle, G.L., and Springer, T.H. Solar energy storage using reversible hydration-dehydration of CaO-$Ca(OH)_2O$. (JE, SYN) 321
Rosen, A. (AIAA J; see Kottapalli, S.B.R.)
Rotem, Assa Fatigue failure of multidirectional laminate. (AIAA J) 271
Rotsztein, Y. (JGC; see Shinar, J.)
Roux, J.A. (PS, V.65; see Seiber, B.A.)
Roux, J.A., Wood, B.E., Alt, R.E., Frazine, D.F., Smith, A.M., and Scott, H.E. Optical properties of biopropellant exhaust constituents condensed at 77 K. (JSR) 373
Rowe, W.M., Luedke, E.E., and Edwards, D.K. Thermal radiative properties of solar sail film materials. (PS, V.65) 3
Rowe, W.T., Johnson, E.S., and McKinnon, R.A. Technology status of jet noise suppression concepts for advanced supersonic transports. (JA) 95
Rubbert, P.E. (AIAA J, SYN; see Ehlers, F.E.)
Rubesin, Morris W. (AIAA J, SYN; see Higuchi, Hiroshi)
Rubinstein, N. and Caywood, W.C. Flight vibration environments defined from Mk 12 booster static tests. (JSR) 214
Rutkowski, Michael J. Aeroelastic stability analysis of the AD-1 manned oblique-wing aircraft. (JA) 401
Ryder, J.T. (JA; see Van Orden, J.M.)
Sagerser, D.A. (JA; see Reemsnyder, D.C.)
Sajben, M. (AIAA J; see Chen, C.P.)
Sajben, M. and Crites, R.C. Real-time optical measurement of time-dependent shock position. (AIAA J, TN) 910
Salas, Manuel D. and Daywitt, James Structure of the conical flowfield about external axial corners. (AIAA J) 41
Saleem, Z.A. (JE; see Chiu, H.H.)
Salemme, R.M. (JE; see Pomeroy, B.D.)
Saltzman, Edwin J. (JE; see Muirhead, Vincent U.)
San Giovanni, Carlo, Jr. Performance of a ring laser strapdown attitude and heading reference for aircraft. (JGC) 320
Sankar, N.L. (AIAA J, TN; see Tassa, Y.)
Sarkos, C.P., Spurgeon, J.C., and Nicholas, E.B. Laboratory fire testing of cabin materials used in commercial aircraft. (JA) 78
Sarma, P.R.L. (JE, TN; see Mittal, M.L.)
Sarma, V.V.S., Kunhikrishnan, K.V., and Ramchand, K. A decision theory model for health monitoring of aeroengines. (JA, EN) 222
Sarpkaya, Turgut and Schoaff, Ray L. Inviscid model of two-dimensional vortex shedding by a circular cylinder. (AIAA J) 1193
Sato, Junzo Settling times of pressure measurements through capillary tubes. (AIAA J) 1061
Savage, C.J. (JSR; see Groll, M.)
Savage, C.J., Aalders, B.G.M., and Kreeb, H. A variable-conductance heat pipe radiator for MAROTS-type communication spacecraft. (JSR) 176
Sawyer, Frank M. (AIAA J, TN; see Stetson, Kenneth F.)
Sawyer, Patricia L. (AIAA J; see Adelman, Howard M.)
Sawyer, Wallace C. (JGC; see Blair, A.B., Jr.)
Schappell, R.T. and Tietz, J.C. Landmark identification and tracking experiments. (PS, V.67) 134
Schetz, Joseph A. (JE; see Figard, R.L.)
--(AIAA J; see Swean, T.F., Jr.)
Schetz, Joseph A. and Favin, Stanley Numerical solution of a body-propeller combination flow including swirl and comparisons with data (JH) 46
Schlinker, Robert H. The transmission of acoustic plane waves at a jet exhaust. (JA) 188
Schmidt, D.A. and Mellor, A.M. Characteristic time correlation for combustion inefficiency from alternative fuels.. (JE) 167
Schmidt, David K. Optimal flight control synthesis via pilot modeling. (JGC) 308
Schmidt, L.V. Wing rock due to aerodynamic hysteresis. (JA) 129
Schmidt, S.F. (JGC; see Sorenson, J.A.)
Schneider, G.E. Thermal resistance due to arbitrary dirichlet contacts on a half-space. (PS, V.65) 103
--(PS, V.65; see Yovanovich, M.M.)
Schnell, W.C. and Grossman, R.L. Vectoring nonaxisymmetric nozzle jet induced effects on a V/STOL fighter model. (JA) 863
Schnepple, W.F., van den Berg, L., and Skinner, N. Growth of HgI_2 single crystals in Spacelab III. (JSR, EN) 441
Schoaff, Ray L. (AIAA J, see Sarpkaya, Turgut)
Schum, E.F. (JA,SYN; see Seiler, M.R.)
Scott, H.E. (JSR; see Roux, J.A.)
Scott, James N. Propagation of sound waves through a linear shear layer. (AIAA J) 237
Sears, W.R. Adaptive wind tunnels with imperfect control. (JA) 344
Sedin, Y.C.-J. (AIAA J, TN; see Karlsson, K.R.)
Sedlock, Dennis (JA; see Surber, Lewis E.)
Seebass, A.R. (AIAA J; see Sobieczky, H.)
Seetharamacharyulu, D. (JSR; see PaiVerneker, V.R.)
Seiber, B.A., Smith, A.M., Wood, B.E., and Roux, J.A. Solar reflectance of cryodeposits, Part I: H_2O on LN_2-cooled black paint. (PS, V.65) 47
--Solar reflectance of cryodeposits, Part II: CO_2 on black paint and stainless steel. (PS, V.65) 66
Seigel, Arnold E. Theory of high-muzzle velocity guns. (PS, V.66) 135
Seiler, M.R. and Schum, E.F. Analytical experimental investigation of diffusers for VSTOL thrust-augmenting ejectors. (JA, SYN) 643
SenGupta, G. Reduction of cabin noise during cruise conditions by stringer and frame damping. (AIAA J) 229
Serao, P. and Pierce, J. Sensitivity of ballistic performance to propellant combustion properties. (PS, V.66) 259
Sessions, B. (JSR; see Vallerani, E.)
Settles, Gary S., Fitzpatrick, Thomas J., and Bogdonoff, Seymour M. Detailed study of attached and separated compression corner flowfields in high Reynolds number supersonic flow. (AIAA J) 579
Sfeir, A.A. Investigation of three-dimensional turbulent rectangular jets. (AIAA J) 1055
Sforzini, Richard H., Foster, Winfred A., Jr., Shackelford, Benjamin W., Jr. Effects of propellant temperature gradients on thrust imbalance of the space shuttle. (JSR) 135
Shackelford, Benjamin W., Jr. (JSR; see Sforzini, Richard H.)
Shackelford, Mark D.A. (JGC; see Asher, Robert B.)
Shadowen, James H. (JA; see Egan, William J., Jr.)
Shan, Y.Y. and Tao, C.C. Study on combustion termination of solid propellants by rapid depressurization. (JSR, SYN) 353
Shang, J.S., Hankey, W.L., and Petty, J.S. Three-dimensional supersonic interacting turbulent flow along a corner. (AIAA J) 706
Sharma, Pramod K. (AIAA J; see Liu, Shih-Min)
Sharp, M.K. (JE, SYN; see Loehrke, J.C.)
Sharp, M.K. and Loehrke, R.I. Stratified thermal storage in residential solar energy applications. (JE) 106
Shashaty, A.J. Similarity in the modeling of cable twisting and looping. (JH, EN) 133
Shaw, R.J., Williams, R.C., and Koncsek, J.L. Tilt nacelle aerodynamics and its application to fan blade stresses. (JA) 591
Shearer, A.J., Tamura, H., and Faeth, G.M. Evaluation of a locally homogeneous flow model of spray evaporation. (JE) 271
Shen, Peter Supersonic flow over a deep cavity for a laser application. (AIAA J, TN) 216
Shen, Young T. and Eppler, Richard Section design for hydrofoil wings with flaps. (JH) 39
Shereda, Donald E. (JSR; see Przirembel, C.E.G.)
Sherman, M.M. and Smith, D.H. Monte Carlo statistical uncertainty analysis method for nose-tip recession predictions. (PS, V.64) 368
Sherrieb, H.E. Ground effects testing of two-,three-, and four-jet configurations. (JA) 393
Shevchuk, E.N. (AIAA J; see Tolubinsky, V.I.)
Shidler, Philip A. (JA; see Mantay, Wayne R.)
Shilling, W.J. (JA; see Hammond, E.F., Jr.)
Shimoji, S. and Oshima, K. A new thermal network correction method by the statistical regression analysis. (PS, V.65) 344
Shinar, J. (JSR; see Gur, I.)
Shinar, J., Rotsztein, Y., and Bezner, E. Analysis of three-dimensional optimal evasion with linearized kinematics. (JGC) 353
Shindo, Shojiro, Rae, William H., Jr., Aoki, Yoshio, and Hill, Eugene G. Improvement of flow quality at the University of Washington subsonic wind tunnel. (JA, SYN) 419
Shore, Charles P. (AIAA J; see Adelman, Howard M.)
--(AIAA J, SYN; see Laurenson, Robert M.)
Shrider, K.R. (JA; see Wilson, D.J.)
Shui, Ven H., Singh, Param I., Kivel, Bennett, and Bressel, Ellen R. Electron attachment at high temperatures. (AIAA J) 1178
Shultis, J.K., Poch, L.A., and Eckhoff, N.D. Optimum selection of a wind turbine generator system. (JE) 145
Siebers, D.L. and Viskanta, R. Thermal analysis of some flat-plate solar collector designs for improving performance. (JE) 8
Siegelman, D. and Hines, R. An approximate analysis of roll/trim dispersion. (JSR) 15
Siemers, Paul M., III and Larson, Terry J. Space shuttle orbiter and aerodynamic testing. (JSR) 223
Sigalla, Armand (JA,SP; see Kulfan, Robert M.)
Simcox, Craig D. Workshop report for the 4th AIAA Aeroacoustics Conference. (JA) 35
Simkins, T.E. Reply by author to C.D. Bailey (AIAA J, RF) 542
--Reply by author to C.V. Smith Jr. (AIAA J, TC)127
Simmonds, Ann L. (PS, V.64; see Moss, James N.)
Simmons, A. (PS, V.67; see Chapman, R.A.)
Simon, E.D. Environmental requirements for bubble pressure tests on fine-mesh screen. (JSR) 218
Simonenko, V.N. (PS, V.63; see Mikheeve, V.F.)
Simpson, R.B. (AIAA J; see Aly, S.L.)
Singer, Josef and Abramovich, Haim Vibration techniques for definition of practical boundary conditions in stiffened shells. (AIAA J) 762
Singh, H.J. (AIAA J, TC; see Rastogi, R.P.)
Singh, M.P. (JSR; see Heller, R.A.)
Singh, Param I. (AIAA J; see Shui, Ven H.)
Sisson, G.E. (AIAA J; see Francis, M.S.)
Skinner, N. (JSR,EN; see Schnepple, W.F.)
Skogh, Jörgen (AIAA J; see Bushnell, David)
Slater, Gary L. (JGC; see Keskar, Dinesh A.)
Sliski, N.J. (PS, V.65; see Neumann, R.D.)
Slovisky, John A. (AIAA J, TN; see Roberts, William B.)

Small, R.D. Overexpanded two-dimensional transonic free jet. (AIAA J, TN) 307
Smart, A.E., Jones, B., and Jewell, N.T. Measurements of unsteady parameters in reheat combustion instabilities. (PS, V.63) 221
Smith, A.M. (JSR; see Roux, J.A.)
--(PS, V.65; see Seiber, B.A.)
--(PS, V.65; see Wood, B.E.)
Smith, C.V., Jr. Comment on "Unconstrained variational statements for initial and boundary-value problems." (AIAA J, TC) 126
Smith, D.H. (PS, V.64; see Sherman, M.M.)
Smith, E.B. (JA; see Lewis, D.A.)
Smith, Harry D. (AIAA J, TN; see Wilcox, William R.)
Smith, J.H.B. Comment on "Flow past nonconical wings with separation." (JA, TC) 576
Smith, K.O. and Gouldin, F.C. Turbulence effects on flame speed and flame structures. (AIAA J) 1243
Smith, N.K. and Good, W.D. Enthalpies of combustion of ramjet fuels. (AIAA J, TN) 905
Smy, P.R. (AIAA J; see Oved, Y.)
Snyder, W.E., Reece, J.H., and Benz, H.F. Pattern classification using charge transfer devices. (PS, V.67) 315
Sobieczky, H., Yu, N.J., Fung, K-Y., and Seebass, A.R. New method for designing shock-free transonic configurations. (AIAA J) 722
Sobiesiak, A. (AIAA J; see Brzustowski, T.A.)
Sockol, P. (AIAA J, TN; see Johnston, W.)
Soderman, Paul T. (JA; see Mort, Kenneth W.)
Solman, F. John, Berglund, Carl D., Chick, Richard W., and Clifton, Brian J. The K_a-band communication system of the Lincoln Experimental Satellites LES-8 and LES-9. (JSR) 181
Somers, R.R., II, Miller, J.W., and Fletcher, L.S. Thermal contact conductance of dissimilar metals. (PS, V.65) 149
Sonnad, V.R. (JA; see Lemmerman, L.A.)
Sorenson, J.A., Schmidt, S.F., and Goka, T. Application of square-root filtering for spacecraft attitude control. (JGC) 426
Sos, J.Y. Impact of advanced onboard processing concepts on end-to-end data systems. (PS, V.67) 184
South, J. (AIAA J; see Hafez, M.)
Sparks, G.W., Jr. (AIAA J; see Francis, M.S.)
Spencer, T.M., Glickman, R., and Porcelli, G. Changing inclination for shuttle payloads. (JGC) 264
Spreiter, John R. (AIAA J; see Stahara, Stephens S.)
Springer, T.M. (JE,SYN; see Rosemary, J.K.)
Spurgeon, J.C. (JA; see Sarkos, C.P.)
Srivastava, A.K. (AIAA J, TC; see Rastogi, R.P.)
Srivastava, B.N., Werle, M.J., and Davis, R.T. Numerical solutions of hypersonic viscous shock-layer equations. (AIAA J, TN) 107
Stahara, Stephen S. and Spreiter, John R. Transonic flows past nonaxisymmetric slender shapes—classical equivalence rule and analysis. (AIAA J) 245
Starnes, James H., Jr. and Haftka, Raphael T. Preliminary design of composite wings for buckling, strength, and displacement constraints. (JA) 564
Stavsky, Yehuda (AIAA J; see Elishakoff, Isaac)
Stancil, Robert T. Improved wave drag predictions using modified linear theory. (JA) 41
Stefan, Karl Performance theory for hot air balloons. (JA) 539
Steiger, Arthur R. (JA; see Hale, Francis J.)
Stengel, Robert F. In-flight simulation with pilot-center of gravity offset and velocity mismatch. (JGC, EN) 538
--(JGC; see Binnie, W. Brian) 538
Stephens, H.E. Supercritical airfoil technology in compressor cascades: comparison of theoretical and experimental results. (AIAA J) 594
Stetson, Kenneth F., and Sawyer, Frank M. Comparison of aerodynamic data obtained by static and dynamic techniques. (AIAA J, TN) 103
Stevens, H.L. (JA; see Willard, C.M.)
Stiefel, Ludwig Gun propellants. (PS, V.66) 307
Stimpson, L.D., Greenfield, M.L., Jaworski, W., and Wolf, F. Thermal studies for a solar sail space vehicle. (PS, V.65) 388
Stockbridge, R.D. (JSR; see Waltrup, P.J.)
Stockman, Norbert O. (JA; see Boles, Michael A.)
Stollery, J.L. (JA; see Richards, B.E.)
Stone, Alan L. (AIAA J; see Hodge James K.)
Storaasli, Olaf O. and Foster, Edwin P. Cost-effective use of minicomputers to solve structural problems. (JA) 775
Strahle, Warren C. (AIAA J, SYN; see Mehta, Gopal K.)
--(AIAA J, TN; see Neale, D.H.)
Strand, L.D. and McNamara, R.P. A variable-frequency driver-microwave transient regression rate measurement system. (PS, V.64) 155
Stroud, W. Jefferson (AIAA J; see Anderson, Melvin S.)
Stuart, J.R. (JSR; see French, J.R.)
Stubbs, G.S. (JGC; see D'Amario, L.A.)
Stuhlinger, Ernst First steps into space, 1946-1978. (JSR, Historical Survey Lecture) 3
Stultz, James W. Thermal analysis of a high-energy propulsion system for a Rover class Mars orbiter. (PS, V.65) 366
--Thermal and other tests of photovoltaic modules performed in natural sunlight. (JE) 363
Subramanian, N.R. Reply by author to J.H.B. Smith (JA,TC) 576
--(JA,ERR; see Ramakrishnan, S.V.)
Subramanian, R. Shankar (AIAA J, TN; see Wilcox, William R.)
Sukanek, Peter C. Conservation errors in axisymmetric finite-difference equations. (AIAA J, TN) 99
--Reply by author to R. Edelman and P.T. Harsha (AIAA J, RF) 1152
Sullivan, P.A. (JH, EN; see Hinchey, M.J.)
Summerfield, Martin (PS, V.66; see BenReuven, Moshe)
Sumner, Irving E. and Barber, James R. Reusable insulation systems for cryogenic Earth-based space vehicles. (PS, V.65) 275
Sunitha, M.R. (AIAA J, SP; see Kishore, K.)
Sunyach, Michel (AIAA J, TN; see Juvé, Daniel)
Suo, M. (JE; see Dring, R.P.)
Suo, M., Patrick, W.P., and Johnson, B.V. Particle trajectories near an airfoil with a film-cooled leading edge. (JE) 156
Supper, W. (JSR; see Groll, M.)
Surber, Lewis E. and Sedlock, Dennis Effects of airframe-inlet integration on half-axisymmetric and two-dimensional supersonic inlet performance. (JA) 612
Sutton, K. (PS, V.64; see Zoby, E.V.)
Sutton, K., Jones, J.J., and Powell, R.W. Effects of atmospheric structure on radiative heating for Jupiter entry probe. (PS, V.64) 3
Suzuki, M. and Kanzawa, A. Boundary-layer charged-particle density profiles in an atmospheric pressure plasma flow. (AIAA J) 1320
Sved, George (JGC, EN; see Berreen, Terry)
Swaim, Robert L. and Yen, Wen-Yo Effects of dynamic aeroelasticity on aircraft handling qualities. (JA, EN) 635
Swean, T.F., Jr. and Schetz, J.A. Flow about a propeller-driven body in temperature-stratified fluid. (AIAA J) 863
Swerdling, M. and Raag, V. Solar thermoelectric power generation for Mercury orbiter missions. (JE) 291
Swift, Calvin T. (PS, V.67; see Blume, Hans-Juergen C.)
Sworder, David D. (JGC; see Archer, Steven M.)
Szebenyi, T. (PS, V.67; see Kowel, S.T.)
Szema, K.Y. (PS, V.64; see Tiwari, S.N.)
Tabakoff, W. (JA; see Wakeman, T.)
Taeusch, David R. Collimation of high-speed flow with thermal spread losses. (AIAA J, TN) 787
Talbot, L. (AIAA J; see Cattolica, R.J.)
Talbot, R.J. (JA; see Przemieniecki, J.S.)
Tamura, H. (JE; see Shearer, A.J.)
Tang, S.P. and Fenn, J.B. Reply by authors to G. Emanuel (AIAA J, TC) 126
Tao, C.C. (JSR,SYN; see Shan, Y.Y.)
Tannehill, J.C., Vigneron, Yvon C., and Rakich, John V. Numerical solution of two-dimensional turbulent blunt body flows with an impinging shock. (AIAA J, SYN) 1289
Tapley, Byron D. (JGC; see Asher, Robert B.)
Tassa, Y. and Sankar, N.L. Effect of suction on a shock-separated boundary layer—a numerical study. (AIAA J, TN) 1268
Tawakley, V.B. Minimum-ballistic-factor flat-nosed missiles. (JSR, EN) 280
Taylor, Christopher M. and Bill, Robert C. Thermal stresses in a plasma-sprayed ceramic gas path seal. (JA) 239
Taylor, Wilson R. (JA; see Ogg, Jon S.)
Tegart, J.R. and Aydelott, J.C. Effect of vibration on retention characteristics of screen acquistion systems. (JSR) 319
Tennyson, R.C. (AIAA J; see Booton, M.)
Teschner, Winfried Optimum thrust trajectories in general central force fields. (JGC) 517
Thames, Frank C. (JA; see Weston, Robert P.)
Thom, R.D., Koch, T.L., and Parrish, W.J. Indium antimonide infrared CCD linear imaging arrays with on-chip preprocessing. (PS, V.67) 411
Thomas, Mitchell (JGC; see Larkin, William J.)
Thomas, P.D. and Lombard, C.K. Geometric conservation law and its application to flow computations on moving grids. (AIAA J) 1030
Thompkins, W.T., Jr. (AIAA J; see Epstein, A.H.)
Thorley, Gene A. and Robinove, Charles J. Current and potential uses of aerospace technology by the U. S. Department of the Interior. (PS, V.67) 15
Thornton, John P. and Waddington, David Experiments with heliostats for central receiver power plants. (JE) 69
Thornton, W.A. (AIAA J; see Khan, M.R.)
Tien, C.H. (PS, V.65; see Yovanovich, M.M.)
Tien, C.L. and Chung, K.S. Entrainment limits in heat pipes. (AIAA J) 643
Tien, C.L. and Vafai, K. Statistical bounds for the effective thermal conductivity of microsphere and fibrous insulation. (PS, V.65) 135
Tietz, J.C. (PS, V.67; see Schappell, R.T.)
Tiwari, S.N. (PS, V.64; see Kumar, Ajay)
--(AIAA J; see Kumar, Ajay)
Tiwari, S.N. and Szema, K.Y. Effects of precursor heating on chemical and radiative nonequilibrium viscous flow around a Jovian entry body. (PS, V.64) 129
--Influence of precursor heating on viscous flow around a Jovian entry body. (PS, V.64) 80

Tobias, Leonard, Palmer, Everett A., and O'Brien, Paul J. Simulation study of the operational effects of fuel-conservative approaches. (JA) 498
Tolubinsky, V.I., Antonenko, V.A., Ostrovsky, Yu. N., and Shevchuk, E.N. Heat transfer in the heating zone of low-temperature heat pipes. (AIAA J) 1390
Tong, Kwok-On and Knight, Charles J. Flow around an isolated porous tube with nonuniform wall thickness. (AIAA J, TN) 1262
Tower, L.K. (JSR; see Kaufman, W.B.)
Triebstein, Hermann Unsteady pressure measurements on rotor blade tips with incidence. (AIAA J) 514
Trischka, John W. Modes of turbulent vortex shedding from a pipe-jet system in a cross-flow. (AIAA J, TN) 315
Tsai, Morgan S. Nonlinear propagation of a wave packet in a two-dimensional lined duct. (AIAA J, SYN) 129
Tsuchiya, Kazuo Attitude behavior of a dual-spin spacecraft composed of asymmetric bodies. (JGC) 328
Tsui, Tien-Yu Finite-element stress analysis of axisymmetric bodies under torsion. (AIAA J, TN) 441
Turkovich, J.J. (JGC; see Bergmann, Edward V.)
Twardus, E.M. (AIAA J; see Brzustowksi, T.A.)
Umoto, Juro (JE; see Hara, Takehisa)
Underwood, J.M. (JA; see Romere, P.O.)
Unger, W.H. (JA; see Ferman, M.A.)
Uppaluri, B. (JSR; see Hanagud, S.)
Uyttenhove, Hugo, J.J. (JA; see Comstock, F.L.)
Vachal, John D. (JA; see Jobe, Charles E.)
Vafai, K. (PS, V.65; see Tien, C.L.)
Vahey, D.W. "Smart" remote holographic processor based on the materials characteristics of $LiNbO_3$. (PS, V.67) 352
Valentine, Daniel T. (JH, EN; see Goodman, Theodore R.)
Vallerani, E., Esposti, Degli P.L., and Sessions, B. Present capabilities of the Spacelab thermal control system. (JSR) 405
van den Berg, L. (JSR, EN; see Schnepple, W.F.)
Vanderplaats, Garret N. Efficient algorithm for numerical airfoil optimization. (JA) 842
Van Driest, E.R. On isotropic two-dimensional turbulence. (AIAA J, TN) 439
van Gool, M.F.C. (JA, TC; see Mooij, H.A.)
Van Kuren, J.T. (AIAA J; see Cudahy, G.F.)
VanLandingham, H.F. (JGC; see Meirovitch, L.)
van Ooijen, H. and Hoogendoorn, C.J. Vapor flow calculations in a flat-plate heat pipe. (AIAA J) 1251
Van Orden, J.M., Krupp, W.E., Walden, E., and Ryder, J.T. Effects of purity on fatigue and fracture of 7XXX-T76511 aluminum extrusion. (JA) 327
Varon, M.N. (PS, V.65; see Hennis, L.A.)
Vasiliev, L.L., Abramenko, A.N., and Kanonchik, L.E. Fluid evaporation and boiling heat transfer in the grooves of thin-film evaporators. (AIAA J) 1395
Vatsa, V.N. (AIAA J; see Burggraf, Odus, R.)
Veefkind, A. (JE; see Zlatanovic, M.)
Venkayya, V.B. (AIAA J; see Khot, N.S.)
Ventrice, M.B., Fang, J.C., and Purdy, K.R. Simulation of liquid propellant rocket engine combustion instabilities. (AIAA J) 1372
Vepa, Rajan Comment on "Active flutter control using generalized unsteady aerodynamic theory." (JGC, TC) 446
Verber, C.M. An integrated optical preprocessor for multichannel analog data. (PS, V.67) 367
Veuillot, J.P. and Viviand, H. Pseudo-unsteady method for the computation of transonic potential flows. (AIAA J, SYN) 691
Viegas, J.R. and Horstman, C.C. Comparison of multiequation turbulence models for several shock boundary-layer interaction flows. (AIAA J) 811
Vigneron, F.R. (JSR; see Garg, S.C.)
--(JGC; see Millar, R.A.)
Vigneron, Yvon C. (AIAA J; see Kutler, Paul)
--(AIAA J, SYN; see Tannehill, J.C.)
Vinayagalingam, Thuraisingam The pedal wind turbine. (JE, TN) 254
Vinkler, Aharon and Wood, Lincoln J. Multistep guaranteed cost control of linear systems with uncertain parameters. (JGC) 449
Vinson, J.R. (JA; see Flaggs, D.L.)
Viskanta, R. (JE; see Siebers, D.L.)
Viviand, H. (AIAA J, SYN; see Veuillot, J.P.)
Vogel, E. (JSR; see Porcelli, G.)
Voorhees, K.J. (PS, V.63; see Chatfield, D.A.)
Wada, B.K. (JSR; see Chen, J.C.)
Wadcock, Alan J. (AIAA J; see Coles, Donald)
Waddington, David (JE; see Thornton, John P.)
Wadia, Aspi Rustom Application of the finite-element method to transonic flows with shocks. (AIAA J, TN) 1141
Wagenseil, L.L. (AIAA J; see Marto, P.J.)
Wahi, Mahinder K. Airplane brake-energy analysis and stopping performance simulation. (JA) 688
--Tire runway interface friction prediction model concept. (JA) 407
Wakeman, T. and Tabakoff, W. Erosion behavior in a simulated jet engine environment. (JA) 828
Walden, E. (JA; see Van Orden, J.M.)
Walker, Bruce K. and Gai, Eliezer Fault detection threshold determination technique using Markov theory. (JGC) 313
Wallace Lawrence R. (PS, V.64; see Biolsi, Louis)
Walsh, E.J. (PS, V.67; see McGoogan, J.T.)
Walsh, M.J. and Weinstein, L.M. Drag and heat-transfer characteristics of small longitudinally ribbed surfaces. (AIAA J, SYN) 770
Walsh, Michael J. Criteria for asymptotic supersonic two-dimensional turbulent wakes. (AIAA J, TN) 783
Waltrup, P.J., Billig, F.S., and Stockbridge, R.D. A procedure for optimizing the design of scramjet engines. (JSR) 163
Wang, C.R. (AIAA J; see Zakkay, V.)
Wang, C.T. (JH, EN; see Liu, C.Y.)
Wang, James Ting-Shun and Dickson, John N. Elastic beams of various orders. (AIAA J, TN) 535
Ward, Bradley W. (AIAA J, SYN; see Murphree, David L.)
Ward, J. Richard (AIAA J, TC; see Nelson, Carl W.)
Ward, Richard S. Galileo dual-spin attitude and articulation control system. (JGC) 420
Washam, R.M. (JE; see Mellor, A.M.)
Washam, R.M. and Mellor, A.M. Correlation technique for ambient effects on oxides of nitrogen. (JA) 626
Waskiewicz, John D. and Lewis, Clark H. Hypersonic viscous flows over sphere cones at high angles of attack. (AIAA J, SYN) 131
Watermeier, Leland A. and Hurban, John M. An historical perspective on gun interior ballistics at the U. S. Army Ballistic Research Laboratory. (PS, V.66) 349
Watson, J.S. (JGC; see Gordon, R.A.)
Watson, Ralph D. Generalized velocities in the outer region of hypersonic turbulent boundary layers. (AIAA J, TN) 919
Way, J.L. (AIAA J; see Wlezien, R.W.)
Wayner, P.C., Jr. Effect of thin film heat transfer on meniscus profile and capillary pressure. (AIAA J) 772
Wedel, R.K., Dammann, R.E., and Greenberg, S.A. Effect of cover material and plastic honeycomb on collector performance. (JE, TN) 62
Weihs, D. and Boasson, M. Multiple equilibrum vortex positions in symmetric shedding from slender bodies. (AIAA J, TN) 213
Weinstein, L.M. (AIAA J, SYN; see Walsh, M.J.)
Wellman, John B. and Norris, David D. Onboard processing for future space-borne imaging systems. (PS, V.67) 193
Wells, P.B. and Bathke, E.A. Transient heat conduction from buried underground radioactive nuclear waste. (JE) 227
Wells, Steven M. (JH; see Wilson, Robert A.)
Wells, William R. (JA; see Queijo, M.J.)
Wells, William R. and Queijo, M.J. Simplified unsteady aerodynamic concepts with application to parameter estimation. (JA) 90
Wen, L. Effect of optical surface properties on high-temperature solar thermal energy conversion. (JE) 82
Wen, Shih-liang (AIAA J, TN; see Chi, L.K.)
Wenstrand, S.C. Measurements of vertical profile of current and Richardson number near St. Croix, U.S.V.I. (JH) 69
Wenzler, S.A. (JE, TN; see Pejsa, Jane H.)
Werle, M.J. Supersonic laminar boundary-layer separation by slot injection. (AIAA J) 160
--(AIAA J; see Burggraf, Odus R.)
--(AIAA J; see Napolitano, M.)
--(AIAA J, TN; see Srivastava, B.N.)
West, Thomas C. (JA; see Jewell, Wayne F.)
Weston, Robert P. and Thames, Frank C. Properties of aspect-ratio-4.0 rectangular jets in a subsonic, crossflow. (JA) 701
Whipkey, R.R. (JA; see Little, B.H., Jr.)
White, Bruce D. Velocity required for intercept with perturbations. (JGC, EN) 94
Whitelaw, J.H. (AIAA J, SYN; see Cebeci, Tuncer)
--(AIAA J, TN; see Cebeci, Tuncer)
Whitener, P.C. Distributed load aircraft concepts. (JA) 72
Whitfield, David L. Analytical description of the complete turbulent boundary-layer velocity profile. (AIAA J, TN) 1145
Wilbur, Paul J. (JSR; see Longhurst, Glen R.)
Wilbur, Paul J. and Kaufman, Harold R. Double ion production in argon and xenon ion thrusters. (JSR) 264
Wilcox, William R. (AIAA J; see Papazian, John M.)
Wilcox, William R., Subramanian, R. Shankar, Papazian, John M., Smith, Harry D., and Mattox, Douglas M. Screening of liquids for thermocapillary bubble movement. (AIAA J, TN) 1022
Wiley, J. Thomas (AIAA J, TN; see Barron, Ronald M.)
Wilhem, D.P. (JA; see Ratwani, M.M.)
Wilkes, James M. General expression for a three-angle rotation matrix. (JGC, EN) 156
Willard, C.M. (JA; see Hiley, P.E.)
Willard, C.M., Capone, F.J., Konarski, M., and Stevens, H.L. Static performance of vectoring reversing nonaxisymmetric nozzles. (JA) 116
Williams, Bobby G. (JGC; see Christensen, Edward J.)
Williams, D.S. (PS, V.67; see Eskenazi, R.)
Williams, D.T., and Boykin, W.H., Jr. Millimeter-wave missile seeker aimpoint wander phenomenon. (JGC) 196
Williams, M.H. Linearization of unsteady transonic flows containing shocks. (AIAA J) 394
Williams, R.C. (JA; see Shaw, R.J.)

Williamson, Walton E., Jr. Minimum and maximum endurance trajectories for gliding flight in a horizontal plane. (JGC) 457
--Optimal trajectories for a ballistic re-entry vehicle recovery system. (JGC, EN) 536
--(JGC, EN; see Hull, David G.)
Willman, Warren W. Some formal effects of nonlinearities in optimal perturbation control. (JGC, SYN) 99
Willmert, K.D. (AIAA J; see Khan, M.R.)
Wilmot, G. (PS, V.66; See Powell,E. G.)
Wilmoth, R.G. (AIAA J; see Dash, S.M.)
Wilson, D.J., Zalay, A.D., Brashears, M.R., Craven, C.E., Shrider, K.R., and Jordan, A.J. Full-scale wake flow measurements with a mobile Laser Doppler Velocimeter. (JA) 155
Wilson, Robert A., Wells, Steven M., and Heber, Charles E. Powering prediction for surface effect ships based on model results. (JH) 113
Wilson, Robert E. Turbulent compressible boundary layer with heat-transfer effects on conditions at the sublayer. (AIAA J, TN) 777
Winther, Bertril A. (JA; see Hwang, Chintsun)
Witt, W.P., III, Palazotto, A.N., and Hahn, H.T. Numerical and experimental comparison of the notched stresses in a laminated plate. (AIAA J) 500
Wlaterick, Ronald E. (JA; see Calarese, Wladimiro)
Wlezien, R.W. and Way, J.L. Techniques for the experimental investigation of the near wake of a circular cylinder. (AIAA J) 563
Wojcicki, S. (AIAA J; see Brzustowski, T.A.)
Wolf, F. (PS, V.65; see Stimpson, L.D.)
Wolff, Calvin M. (JSR, EN; see Redman, Reagan S.)
Wolkovitch, Julian Subsonic VSTOL aircraft configurations with tandem wings. (JA) 605
Wong, D. (PS, V.67; see Lum, H.)
Wood, B.E. (JSR; see Roux, J.A.)
--(PS, V.65; see Seiber, B.A.)
Wood, B.E. and Smith, A.M. Infrared reflectance and refractive index of condensed gas films on cryogenic mirrors. (PS, V.65) 22
Wood, Lincoln J. (JGC; see Vinkler, Aharon)
Woodcock, Gordon R. Reply by author to G. Hazelrigg. (JE, TC) 126
Woodroffe, J.A. (AIAA J; see Reilly, J.P.)
Woolley, Charles T. (JGC; see Anderson, Willard W.)
Work, C.C. (JGC; see Bergmann, Edward V.)
Wright, H.E. (AIAA J; see Cudahy, G.F.)
Wright, W.H. Launch window for a shuttle-based geosynchronous orbit mission. (JSR, EN) 439
Wu, Peter K.S. Convective heat flux in a laser-heated thruster. (JSR, EN) 56
Wuerker, R.F. (PS, V.63; see Briones, R.A.)
Wurster, Kathryn E. (JSR; see Rehder, John J.)
Wyatt, W.R., Clark, J.A., Peters, J.E., and Mellor, A.M. Size distribution and surface area measurements of gas turbine combustor smoke. (JE) 285
Yamamoto, Kingo and Arndt, Roger E. A. Asymmetry of a circular jet observed in near and far fields. (AIAA J, TN) 533
--Peak Strouhal frequency of subsonic jet noise as a function of Reynolds number. (AIAA J, TN) 529
Yamane, Takashi (JA, SYN; see Kato, Kanichiro)
--(JA; see Kato, Kanichiro)
Yang, T.Y. Reply by author to rebuttal by W.P. Rodden. (AIAA J, RF) 448
Yen, Wen-Yo (JA, EN; see Swaim, Robert L.)
Yesil, Oktay and Christiansen, Walter H. Optically pumped carbon dioxide laser mixtures. (JE) 315
Yoo, Chai Hong Optimization of triangular laced truss columns with tubular compression members for space application. (AIAA J, TN) 921
Yoshino, Hozo High-fidelity airplane simulation model. (JA) 374
Young, George R. and Kibler, James F. Earth radiation budget experiment and smart sensors. (PS, V.67) 74
Yovanovich, M.M. (PS, V.65; see Burde, S.S.)
Yovanovich, M.M., Schneider, G.E., and Tien, C.H. Thermal resistance of hollow spheres subjected to arbitrary flux over their poles. (PS, V.65) 120
Yu, N.J. (AIAA J; see Sobieczky, H.)
Zabinsky, J.M. Some propulsion and control concepts for a Navy type A V/STOL airplane. (JA) 769
Zakkay, V., Barra, V., and Wang, C.R. The nature of boundary-layer turbulence at a high subsonic speed. (AIAA J) 356
Zalay, A.D. (JA; see Wilson, D.J.)
Zarchan, Paul Complete statistical analysis of nonlinear missile guidance systems—SLAM. (JGC) 71
--Representation of realistic evasive maneuvers by the use of shaping filters. (JGC) 290
Zarko, V.E. (PS, V.63; see Mikheev, V.F.)
Zaturska, M.B. (AIAA J, TN; see Banks, W.H.H.)
Zedan, M. Fouad and Dalton, Charles Viscous drag computation for axisymmetric bodies at high Reynolds numbers. (JH) 52
Zeitoun, D. and Imbert, M. Interaction between the unsteady boundary layer and inviscid hot flow in a shock tube. (AIAA J) 821
Zeldin, B. (JSR; see French, J.R.)
Zien, T.-F., Chien, K.-Y., and Driftmyer, R.T. Two-dimensional supersonic jet impingement on a flat plate. (AIAA J, SYN) 4
Zinn, B.T. (PS, V.63; see Brown, R.S.)
Zlatanovic, M., Veefkind, A., and Rietjens, L.H.Th. Performance of a closed-cycle MHD generator with molecular impurities. (JE) 23
Zoby, E.V., Sutton, K., Olstad, W.B., and Moss, J.N. Approximate inviscid radiating flowfield analysis for outer planet entry probes. (PS, V.64) 42
Zondek, B. Improved orbit estimation by satellite-mounted gravity gradiometers. (JGC) 173
Zurn, D.E. (PS, V.63; see Boggs, T.L.)
Zwarts, F.J. (AIAA J; see Gough, P.S.)

AIAA
Progress in Astronautics and Aeronautics Series

Volumes 63-67, published in 1979, are indexed in this issue of the Combined Index

Prices and descriptions of Volumes 56-71 are given below. For information on Volumes 1-55 and on forthcoming volumes, write to AIAA Special Publications Department, 1290 Avenue of the Americas, New York, New York 10104.

SPACE SYSTEMS AND THEIR INTERACTIONS WITH EARTH'S SPACE ENVIRONMENT
v. 71

Edited by Henry B. Garrett and Charles P. Pike, Air Force Geophysics Laboratory

This volume presents a wide-ranging scientific examination of the many aspects of the interaction between space systems and the space environment, a subject of growing importance in view of the ever more complicated missions to be performed in space and in view of the ever growing intricacy of spacecraft systems. Among the many fascinating topics are such matters as: the changes in the upper atmosphere, in the ionosphere, in the plasmasphere, and in the magnetosphere, due to vapor or gas releases from large space vehicles; electrical charging of the spacecraft by action of solar radiation and by interaction with the ionosphere, and the subsequent effects of such accumulation; the effects of microwave beams on the ionosphere, including not only radiative heating but also electric breakdown of the surrounding gas; the creation of ionosphere "holes" and wakes by rapidly moving spacecraft; the occurrence of arcs and the effects of such arcing in orbital spacecraft; the effects on space systems of the radiation environment, etc. Included are discussions of the details of the space environment itself, e.g., the characteristics of the upper atmosphere and of the outer atmosphere at great distances from the Earth; and the diverse physical radiations prevalent in outer space, especially in Earth's magnetosphere. A subject as diverse as this necessarily is an interdisciplinary one. It is therefore expected that this volume, based mainly on invited papers, will prove of value.

737 pp., 6 × 9, illus., $30.00 Mem., $55.00 List

ENTRY HEATING AND THERMAL PROTECTION
v. 69

HEAT TRANSFER, THERMAL CONTROL, AND HEAT PIPES
v. 70

Edited by Walter B. Olstad, NASA Headquarters

The era of space exploration and utilization that we are witnessing today could not have become reality without a host of evolutionary and even revolutionary advances in many technical areas. Thermophysics is certainly no exception. In fact, the interdisciplinary field of thermophysics plays a significant role in the life cycle of all space missions from launch, through operation in the space environment, to entry into the atmosphere of Earth or one of Earth's planetary neighbors. Thermal control has been and remains a prime design concern for all spacecraft. Although many noteworthy advances in thermal control technology can be cited, such as advanced thermal coatings, louvered space radiators, low-temperature phase-change material packages, heat pipes and thermal diodes, and computational thermal analysis techniques, new and more challenging problems continue to arise. The prospects are for increased, not diminished, demands on the skill and ingenuity of the thermal control engineer and for continued advancement in those fundamental discipline areas upon which he relies. It is hoped that these volumes will be useful references for those working in these fields who may wish to bring themselves up-to-date in the applications to spacecraft and a guide and inspiration to those who, in the future, will be faced with new and, as yet, unknown design challenges.

Volume 69—361 pp., 6 × 9, illus., $22.00 Mem., $37.50 List
Volume 70—393 pp., 6 × 9, illus., $22.00 Mem., $37.50 List

INJECTION AND MIXING IN TURBULENT FLOW
v. 68

By Joseph A. Schetz, Virginia Polytechnic Institute and State University

Turbulent flows involving injection and mixing occur in many engineering situations and in a variety of natural phenomena. Liquid or gaseous fuel injection in jet and rocket engines is of concern to the aerospace engineer; the mechanical engineer must estimate the mixing zone produced by the injection of condenser cooling water into a waterway; the chemical engineer is interested in process mixers and reactors; the civil engineer is involved with the dispersion of pollutants in the atmosphere; and oceanographers and meteorologists are concerned with mixing of fluid masses on a large scale. These are but a few examples of specific physical cases that are encompassed within the scope of this book. The volume is organized to provide a detailed coverage of both the available experimental data and the theoretical prediction methods in current use. The case of a single jet in a coaxial stream is used as a baseline case, and the effects of axial pressure gradient, self-propulsion, swirl, two-phase mixtures, three-dimensional geometry, transverse injection, buoyancy forces, and viscous-inviscid interaction are discussed as variations on the baseline case.

200 pp., 6 × 9, illus., $17.00 Mem., $27.00 List

REMOTE SENSING OF EARTH FROM SPACE: ROLE OF "SMART SENSORS"
v. 67

Edited by Roger A. Breckenridge, NASA Langley Research Center

The technology of remote sensing of Earth from orbiting spacecraft has advanced rapidly from the time two decades ago when the first Earth satellites returned simple radio transmissions and simple photographic information to Earth receivers. The advance has been largely the result of greatly improved detection sensitivity, signal discrimination, and response time of the sensors, as well as the introduction of new and diverse sensors for different physical and chemical functions. But the systems for such remote sensing have until now remained essentially unaltered: raw signals are radioed to ground receivers where the electrical quantities are recorded, converted, zero-adjusted, computed, and tabulated by specially designed electronic apparatus and large main-frame computers. The recent emergence of efficient detector arrays, microprocessors, integrated electronics, and specialized computer circuitry has sparked a revolution in sensor system technology, the so-called smart sensor. By incorporating many or all of the processing functions within the sensor device itself, a smart sensor can, with greater versatility, extract much more useful information from the received physical signals than a simple sensor, and it can handle a much larger volume of data. Smart sensor systems are expected to find application for remote data collection not only in spacecraft but in terrestrial systems as well, in order to circumvent the cumbersome methods associated with limited on-site sensing.

505 pp., 6 × 9, illus., $22.00 Mem., $42.50 List

INTERIOR BALLISTICS OF GUNS
v. 66

Edited by Herman Krier, University of Illinois at Urbana-Champaign, and
Martin Summerfield, New York University

In planning this volume of the Series, the volume editors were motivated by the realization that, although the science of interior ballistics has advanced markedly in the past three decades and especially in the decade since 1970, there exists no systematic textbook or monograph today that covers the new and important developments. The present volume, composed entirely of chapters written specially to fill this gap by authors invited for their particular expert knowledge, was therefore planned in part as a textbook, with systematic coverage of the field as seen by the editors.

Three new factors have entered ballistic theory during the past decade, each it so happened from a stream of science not directly related to interior ballistics. First and foremost was the detailed treatment of the combustion phase of the ballistic cycle, including the details of localized ignition and flame spreading, a method of analysis drawn largely from rocket propulsion theory. The second was the formulation of the dynamical fluid-flow equations in two-phase flow form with appropriate relations for the interactions of the two phases. The third is what made it possible to incorporate the first two factors, namely, the use of advanced computers to solve the partial differential equations describing the nonsteady two-phase burning fluid-flow system.

The book is not restricted to theoretical developments alone. Attention is given to many of today's practical questions, particularly as those questions are illuminated by the newly developed theoretical models. It will be seen in several of the articles that many pathologies of interior ballistics, hitherto called practical problems and relegated to empirical description and treatment, are yielding to theoretical analysis by means of the newer methods of interior ballistics. In this way, the book constitutes a combined treatment of theory and practice. It is the belief of the editors that applied scientists in many fields will find material of interest in this volume.

385 pp., 6 × 9, illus., $25.00 Mem., $40.00 List

OUTER PLANET ENTRY HEATING AND THERMAL PROTECTION
v. 64

THERMOPHYSICS AND THERMAL CONTROL
v. 65

Edited by Raymond Viskanta, Purdue University

The growing need for the solution of complex technological problems involving the generation of heat and its absorption, and the transport of heat energy by various modes, has brought together the basic sciences of thermodynamics and energy transfer to form the modern science of thermophysics.

Thermophysics is characterized also by the exactness with which solutions are demanded, especially in the application to temperature control of spacecraft during long flights and to the questions of survival of re-entry bodies upon entering the atmosphere of Earth or one of the other planets.

More recently, the body of knowledge we call thermophysics has been applied to problems of resource planning by means of remote detection techniques, to the solving of problems of air and water pollution, and to the urgent problems of finding and assuring new sources of energy to supplement our conventional supplies.

Physical scientists concerned with thermodynamics and energy transport processes, with radiation emission and absorption, and with the dynamics of these processes as well as steady states, will find much in these volumes which affects their specialties; and research and development engineers involved in spacecraft design, tracking of pollutants, finding new energy supplies, etc., will find detailed expositions of modern developments in these volumes which may be applicable to their projects.

Volume 64—404 pp., 6 × 9, illus., $20.00 Mem., $35.00 List
Volume 65—447 pp., 6 × 9, illus., $20.00 Mem., $35.00 List
Set (Volumes 64 and 65)—$40.00 Mem., $55.00 List

EXPERIMENTAL DIAGNOSTICS IN COMBUSTION OF SOLIDS
v. 63

Edited by Thomas L. Boggs, Naval Weapons Center, and Ben T. Zinn, Georgia Institute of Technology

The objective of this volume is to assemble in one place a set of advanced expository treatments of the newest diagnostic methods that have emerged in recent years in experimental combustion research in heterogenous systems and to analyze both the potentials and the shortcomings in ways that would suggest directions for future development.

This volume was planned as a means to disseminate the techniques hitherto known only to specialists to the much broader community of research scientists and development engineers in the combustion field. We believe that the articles and the selected references to the current literature contained in the articles will prove useful and stimulating.

339 pp., 6 × 9, illus., $20.00 Mem., $35.00 List

ALTERNATIVE HYDROCARBON FUELS: COMBUSTION AND CHEMICAL KINETICS
v. 62

Edited by Craig T. Bowman, Stanford University, and Jørgen Birkeland, Department of Energy

This volume is based on a set of original papers delivered at a special workshop called by the Department of Energy and the Department of Defense for the purpose of discussing the problems of switching to fuels producible from nonpetroleum sources for use in automotive engines, aircraft gas turbines, and stationary power plants. The authors were asked also to indicate how research in the areas of combustion, fuel chemistry, and chemical kinetics can be directed toward achieving a timely transition to such fuels, should it become necessary. Research scientists in those fields, as well as development engineers concerned with engines and power plants, will find this volume a useful up-to-date analysis of the changing fuels picture.

463 pp., 6 × 9, illus., $20.00 Mem., $35.00 List

RADIATION ENERGY CONVERSION IN SPACE
v. 61

Edited by Kenneth W. Billman, NASA Ames Research Center

The principal theme of this volume is the analysis of potential methods for the effective utilization of solar energy for the generation and transmission of large amounts of power from satellite power stations down to Earth for terrestrial purposes.

Physicists interested in the basic processes of the interaction of space radiation and matter in various forms, engineers concerned with solutions to the terrestrial energy supply dilemma, spacecraft specialists involved in satellite power systems, and economists and environmentalists concerned with energy will find in this volume many stimulating concepts deserving of careful study.

670 pp., 6 × 9, illus., $24.00 Mem., $45.00 List

AERODYNAMIC HEATING AND THERMAL PROTECTION SYSTEMS
v. 59

HEAT TRANSFER AND THERMAL CONTROL SYSTEMS
v. 60

Edited by Leroy S. Fletcher, University of Virginia

Volume 59 and Volume 60 offer a coordinated set of original papers representing some of the latest developments in the field of heat transfer. In Volume 59, the topics covered are: 1) The Aerothermal Environment, particularly aerodynamic heating combined with radiation exchange and chemical reaction; 2) Plume Radiation, with special reference to the emissions characteristic of the jet components; and 3) Thermal Protection Systems, especially for intense heating conditions. Volume 60 is concerned with: 1) Heat Pipes, a widely used but rather intricate means for internal temperature control; 2) Heat Transfer, especially in complex situations; and 3) Thermal Control Systems, a description of sophisticated systems designed to control the flow of heat within a vehicle so as to maintain a specified temperature environment.

Vol. 59—424 pp., 6 × 9, illus., $20.00 Mem., $35.00 List
Vol. 60—382 pp., 6 × 9, illus., $20.00 Mem., $35.00 List

TURBULENT COMBUSTION
v. 58

Edited by Lawrence A. Kennedy, State University of New York at Buffalo

In the last few years, two strong forces have emerged that now compel research scientists to attack the subject of turbulent combustion anew. One is the development of novel instrumental techniques that permit rather precise nonintrusive measurement of reactant concentrations, turbulent velocity fluctuations, temperatures, etc., generally by optical means using laser beams. The other is the compelling demand to solve hitherto bypassed problems such as identifying the mechanisms responsible for the production of the minor compounds labeled pollutants and discovering ways to reduce such emissions.

This new climate of research in turbulent combustion and the availability of new results led to the Symposium from which this book is derived. Anyone interested in the modern science of combustion will find this book a rewarding source of information.

485 pp., 6 × 9, illus., $20.00 Mem., $30.00 List

SPACE-BASED MANUFACTURING FROM NONTERRESTRIAL MATERIALS
v. 57

Editor: Gerard K. O'Neill, Assistant Editor: Brian O'Leary

Some of the most important engineering problems are dealt with in this book in a series of papers derived from a NASA-sponsored study organized by Prof. Gerard K. O'Neill: how to gather material resources from the nearby moon or nearby

asteroids, how to convert the materials chemically and physically to useful forms, how to construct such gigantic space structures, and necessarily, how to plan and finance so vast a program.

192 pp., 6x9, illus., $15.00 Member $23.00 List

THERMOPHYSICS OF SPACECRAFT AND OUTER PLANET ENTRY PROBES
v. 56

Edited by Allie M. Smith, ARO, Inc., Arnold Air Force Station, Tennessee

Stimulated by the ever-advancing challenge of space technology in the past 20 years, the science of thermophysics has grown dramatically in content and technical sophistication. The practical goals are to solve problems of heat transfer and temperature control, but the reach of the field is well beyond the conventional subject of heat transfer. As the name implies, the advances in the subject have demanded detailed studies of the underlying physics, including such topics as the processes of radiation, reflection and absorption, the radiation transfer with material, contact phenomena affecting thermal resistance, energy exchange, deep cryogenic temperature, and so forth. This volume is intended to bring the most recent progress in these fields to the attention of the physical scientist as well as to the heat-transfer engineer.

467 pp., 6x9, illus., $20.00 Member $40.00 List

AIAA
Progress in Astronautics and Aeronautics Series

Please send me the following publications:

_____

_____

_____

_____

_____

_____

_____

_____

NAME _____

COMPANY _____

ADDRESS _____

CITY/STATE/ZIP _____

CREDIT CARD CHARGE

Signature _____

BANKAMERICARD/VISA No. _____ **Expiration date**

MASTER CHARGE No. _____ **Expiration date**

INTERBANK No. _____ **Expiration date**

Information for Contributors to Journals of the AIAA

General Requirements: Send all manuscripts, with covering letter, to the Editorial Department, AIAA, 1290 Avenue of the Americas, New York, N.Y. 10104. Each manuscript must be accompanied by written assurance as to security clearance in the event the subject matter lies in a classified area or if the paper originates under government sponsorship. Full responsibility rests with the author. Signed assurance must be given that the manuscript or its equivalent *has not been submitted for publication elsewhere*. The AIAA has prior publication rights to any paper presented at its meetings, but preprints will be considered for publication only if the author requests it. All manuscripts must be as *brief and concise* as proper presentation of the ideas will allow.

Send 4 complete copies of each manuscript and 4 sets of figures. The manuscript must be in English, typed *double spaced* on one side of the page only, with wide margins to allow for editorial instructions. Footnotes, references, and figure captions also should be typed double spaced. Use standard-size (8½-×11-in.) good-quality bond paper.

Synoptics: Alternatively, and at his option, an author may submit a Synoptic. Many subjects can be covered in a more useful and economical form for the majority of readers as a Synoptic, not exceeding 8 double-spaced typed pages (2 journal pages), with two major headings: *Abstract*, which describes the purpose of the paper; and *Contents*, which is a concise but self-sufficient presentation of the key results in a form that readers can use without having to consult the full paper. Prior work and details of methodology generally may be omitted, but a few key references may be cited for important related work. Make a serious effort to write the Synoptic so that it is understandable to the general engineering community by replacing specialist jargon terms and acronyms with terms that the nonspecialist can understand. Where a device is the subject of the paper, a simple line diagram showing those elements being discussed in the Synoptic should be given. Coordinates should be shown on the diagram when pertinent, and symbols appearing in the tables and graphs of the Synoptic should be defined. Information should be given in tabular form rather than in prose when this simplifies the presentation and expedites comprehension. The relation of the author's contribution to the state-of-the-art should be indicated briefly.

If you have submitted a full paper, the Editors may request you to prepare a Synoptic for review instead. A Synoptic must still be accompanied by a full paper, preprint, or company report for verification. If the Synoptic is published, the backup paper or preprint will be available from the National Technical Information Service or the AIAA Library (to be cited in a footnote on first page of Synoptic), where it will be available to readers who wish to purchase copies.

Full-Length Papers: In terms of standard-size *double spaced* typed pages, the maximum length for full-length papers is 36 pages (including equations), where each normal-sized figure counts as one page. If a figure has several parts, each part counts as one page. Greater length usually will be unacceptable and may be the basis for return of the paper to the author for reduction prior to review.

Abstract: Each full-length paper must be accompanied by a 100- to 200-word abstract, written as a single paragraph. It should be a summary (not an introduction!) and complete in itself (no numerical references). The abstract should indicate the subjects dealt with in the paper and should state the objectives of the investigation. Newly observed facts and conclusions of the experiment or argument discussed in the paper must be stated in summary form. Readers should not have to read the paper to understand the abstract.

Introduction: The paper also must include an Introduction—a brief assessment of prior work by others and an explanation of how the paper contributes to the field.

Technical (or Engineering) Notes and Technical Comments: Short manuscripts, not exceeding one quarter the length stated for a full paper, may qualify for publication in one of these categories. *Notes* are intended for prompt disclosures of new, significant data or developments of limited scope. *Comments* should relate to papers previously published by AIAA. These categories are reviewed only by an editor and usually are published several months sooner than a full paper or Synoptic.

Titles and Authors' Names: The title should be brief and concise. The author's name should be typed on the line below the title, and it is preferable to use the full name. The company affiliation should follow on the next line, with the author's official title given in a footnote. This applies to all categories of papers.

Mathematics: Equations and symbols should be typewritten. Symbols that are not available on the typewriter may be handwritten, *but clarity is essential*. Identify each handwritten symbol so that a reader can distinguish between capital and lower case letters; the letter o and zero (0); ell (l), and number one (1), and prime (′); k and kappa (κ); u and mu (μ); v and nu (ν); n and eta (η), etc. Be sure that subscripts and superscripts are readily apparent. To save space, the *solidus* must be used for fractions in the text and for simple fractions in displayed equations.

References: References are to be grouped at the end of the manuscript and are to be given as follows:

1) Journals: Walker, R. E., Stone, A. R., and Shandor, M., "Secondary Gas Injection in a Conical Rocket Nozzle," *AIAA Journal*, Vol. 1, Feb. 1963, pp. 334-338.

2) Books: Turner, M. J., Martin, H. C., and Leible, R. C., "Further Development and Applications of Stiffness Method," *Matrix Methods of Structural Analysis*, 1st ed., Vol. 1, Macmillan, New York, 1964, pp. 203-206.

Sergre, E. (ed)., *Experimental Nuclear Physics*, 1st ed., Vol. 1, Wiley, New York, 1963, pp. 6-10.

3) Reports: Book, E. and Bratman, H., "Using Compilers to Build Compilers," Systems Development Corp., Santa Monica, Calif., SP-176, Aug. 1960.

4) Transactions/Proceedings: Soo, S. L., "Boundary-Layer Motion of a Gas-Solid Suspension," *Proceedings of the Symposium on Interaction between Fluids and Particles*, Institute of Chemical Engineers, Vol. 1, 1962, pp. 50-63.

Always give inclusive page numbers for references to journal articles and a page or chapter number for books. Each reference must be cited in numerical order in the text.

Illustrations: Line drawings must be clear and sharp. Use black ink on white paper or tracing cloth. Lettering should be large enough to be legible (at least 1/16 in. high) after reduction. Plan figures for reduction to column width (3¼ in.). Photographs should be glossy prints, not matte or semimatte. Each figure must have a caption; captions should be listed on a separate sheet. Write your name and the figure number in the margin of each figure. Cite each figure in numerical order in the text.

Tables: Type a double rule at the top and bottom of each table and a single rule under the column headings. Table footnotes should be placed under the final double rule and should be indicated by letters, a, b, c, etc. Do not number table footnotes consecutively with text references. Each table must have a number and a caption. Cite each table in numerical order in the text.

Symbols and Units: Use standard symbols whenever possible, preferably those recommended by the American Standards Association. The metric or dual systems of units (metric and English) should be used, wherever possible, in accordance with an endorsement by the AIAA Board of Directors. Although such use is not mandatory, authors are urged to comply.

International Aerospace Abstracts

A MUST for any engineering/ scientific library....

International Aerospace Abstracts, now in its twentieth year, is a compendium of worldwide resources, organized for the ease of access and use. Published on the first and fifteenth of each month, IAA has two sections in each semimonthly issue. The first section contains announcements of each accession, or item, with abstracts, titles, and full source data, including organizational affiliations of authors, together with full availability information. This section, arranged under broad subject categories for browsing, enables the reader to judge the relevance of the published work to his particular interests. More than 3,700 documents are announced each month.

48% of the accessions reported on literature from 39 foreign countries (including the United Kingdom, France, Germany, Japan, USSR, and China) and a number of international bodies.

The second section of IAA comprises five indexes, leading off with a detailed subject index providing multiple subject access to the content of each accession.

The IAA data base comprises more than 45,000 accessions per year, including journal articles, conference papers, publications of learned academies and professional societies, books and various miscellaneous publications.

This AIAA activity is specifically designed to aid individuals in increasing their knowledge by making available the very latest published scientific and technical information from worldwide sources.

Write for Subscription Rates to:
Publications Department
AIAA – TIS
1290 Avenue of the Americas
New York, N.Y. 10104